COMMODORE

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▶ADD-ON POWER ISSUE

MAY 1987

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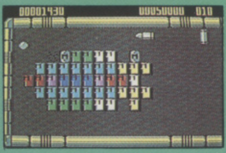
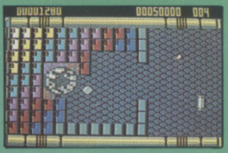
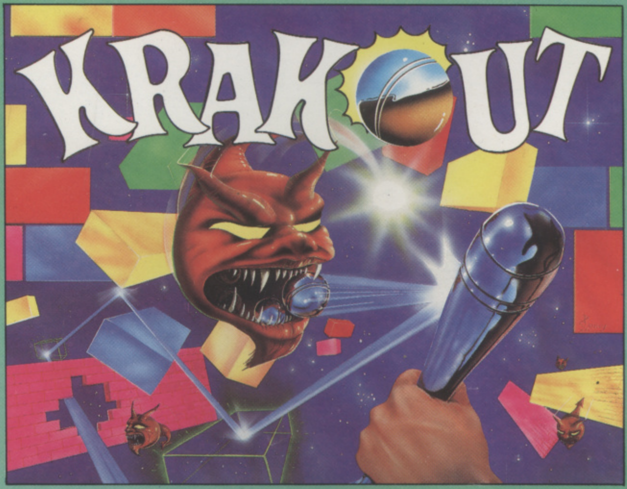
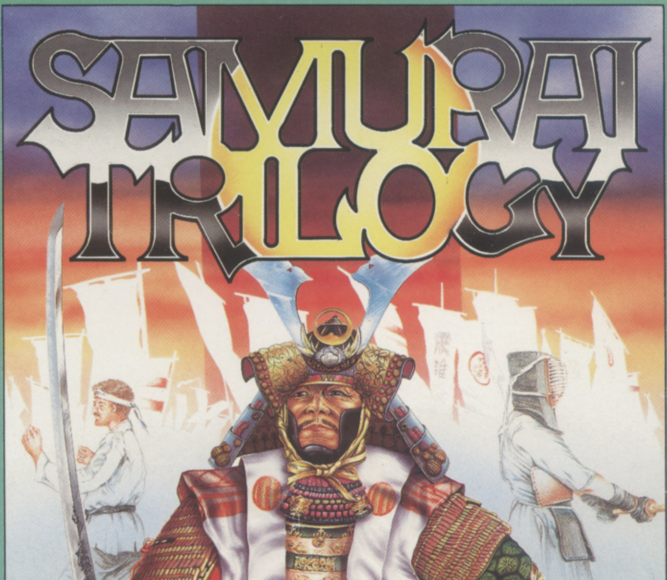


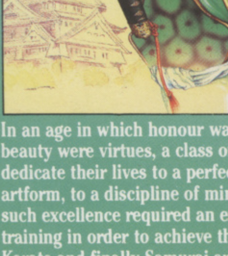


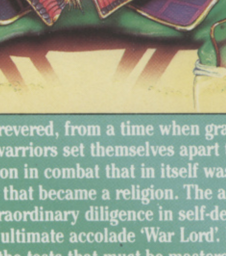


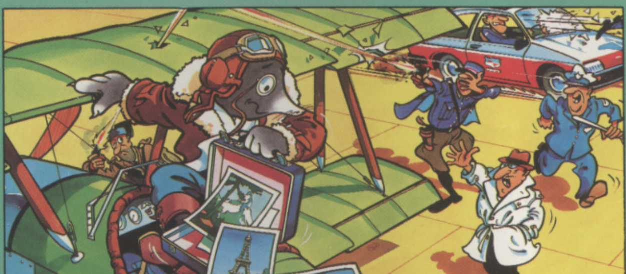
Welcome to the ultimate challenge! A two way test of skill and nerve – can you out manoeuvre the awesome ogre and blast a path through the myriad of colourful bricks? Are your reflexes adept enough to retrieve the speeding missile, deflected from its block shattering journey or regurgitated contemptuously from the ogre's mouth?



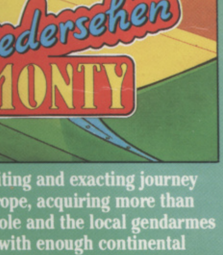
In an age in which honour was revered, from a time when grace and beauty were virtues, a class of warriors set themselves apart to dedicate their lives to a perfection in combat that in itself was an artform, to a discipline of mind that became a religion. The attaining of such excellence required an extraordinary diligence in self-denial and training in order to achieve the ultimate accolade 'War Lord'. Kendo, Karate and finally Samurai are the tests that must be mastered before such honour can be bestowed.







Monty the Mole is still on the run on his most exciting and exacting journey to date, a whistle stop tour of the capitals of Europe, acquiring more than just the local scenery on the way. With Intermole and the local gendarmes hot on his tail Monty must fill his booty bag with enough continental treasures and currency to effect an escape to his dream island ... Montoss.



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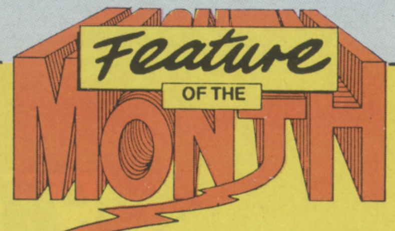

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CCI View

Dear Reader

"One day they may say that you will not go far . . . the next day on your dressing room they paint a star!" 'There's no business like show business' except computer business!

Commodore for almost the last two years a target for "Will it survive?" rumours has suddenly come up smelling of roses. It has announced $20 million plus profits, it has launched two new PCs and cut other PC prices, and it has now brought out two new Amigas that have created a big stir — especially among its competitors. No wonder the value of its shares has almost doubled since last year.

The new low price 500 Amiga has caused the biggest sensation. It is the computer many people have been waiting for — especially those with a 64 looking to jump into a different level . . .

But this issue of CCI is about lots more than just the Amigas. The rest of the magazine is packed with material that we believe will inform and entertain all Commodore owners. There is coverage of an extraordinary Computer Graphics book, new software for the 128, more 64 Power and a return of CCI's ADD-ON Guide, a Turbo for the Plus/4, an interesting Maths program, the launch of Microprose's Gunship, around 20 games reviewed with Mega ratings for Gremlin and Tynesoft and competitions that have hundreds of prizes from a Raleigh bike to games, Konix joysticks, footballs and Mini Offices.

At CCI we take very seriously indeed the task of creating material to keep you informed. But we don't think computing has to be dull and we hope that you get a dash of show business style sparkle from CCI too.

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Further details of other programs available will be in next month's CCI.

If you missed any of the vouchers, you can get hold of the relevant copy of CCI from our offices at a cost of £1.25 each. Mark your envelopes to 'Back Issues' and make cheques or POs payable to Croftward Ltd.

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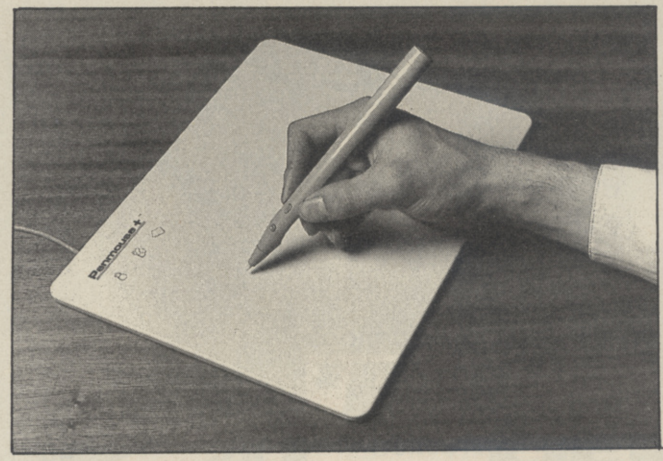


Kurta's Penmouse+ operating as a mouse and a graphics tablet.

Penmouse

What looks like a pen but operates as a mouse or graphics tablet? The Penmouse+ input device, is a new cordless control device, that can be used computer applications requiring cursor control, menu selection, tracing or drawing. And there are only two components to the system: a stylish, cordless pen and a slim tablet 1/4" thick.

Developments in design and production technology have enabled Kurta to manufacture a device which is simpler and smaller than other alternatives to the keyboard, and which — in many cases — can function without a separate power supply.

Selling in the UK at £235, Kurta's Penmouse+ has already proved to be a cost-effective and efficient means of data input. As users are able to choose between graphics tablet mouse modes, the Penmouse+ allows for both absolute and relative positioning.

The three-button stylus is battery powered and will emulate the majority of mice available. It is small, lightweight and completely symmetrical for use by right or left handed people.

It is reported that a Penmouse will shortly be available for the AMIGA.

Escape from Paradise with Anco

Anco has announced the release of Escape from Paradise, an arcade adventure for the Commodore 64/128.

Joe has create a paradise deep underground but finds his route blocked by strange creatures with strange powers and he must escape to survive. To reach the outside world he can use ladders, ropes, lifts but above all he must use his intuition, his memory and his initiative. Under constant alien attack his routes can be both perilous and frustrating. The aliens can adopt various shapes and will attempt to sap Joe's energy. Joe can only defend himself if his weapons are sufficiently charged.

The fifth Quadrant

Galactic Survey Vessel ORION is engaged on a mission to map and explore the galaxies of the Hercules Cluster. After twenty years the survey is almost complete apart from one small strange looking Nebula. The crew prepare to cross the intergalactic space by putting themselves into sustained Low Energy Expenditure Process. However, during the intergalactic crossing, ORION is taken over by a force of strange alien mechanical beings — ZIMEN.

When the crew re-energise, they find that many of the ship's systems have been terminated, all the computers reprogrammed in an alien language and ZIMEN everywhere. Can the crew overcome these obstacles and regain control of ORION. Time is against them as the ship's energy drains away. They must all work together using all their inbuilt capacities in order to free themselves from the dreaded ZIMEN.

This Bubblebus 64 adventure is set on a spaceship which will have approximately 250 rooms/locations and the player will have control of four robot crew swapping from one to another as necessary.

The robots glide about under the control of the player. There are lifts which transport robots between levels, and matter transmitters which will move them between fixed locations. Many of the ship's systems, including the lift and the matter transmitters, can be programmed assuming the alien language can be cracked.

Supersoft Zooms in

Few programs are more boring than machine code monitors. And yet the ZOOM machine code monitor for the Commodore 64 has sold thousands of copies.

You may be mildly interested to know that Supersoft have just released a new version of ZOOM, for the Commodore 128. Not quite as boring as their predecessor, they allow complete control over bank-switching, such an important feature of these computers.

ZOOM has very powerful debugging commands — you can set breakpoints and single-step or quick track code. The examine command works with a mask, to allow much more sophisticated searching than with a standard hung command, and it is very easy to patch programs using ZOOM's built-in disassembler and spot assembler.

ZOOM has over 25 commands and comes with a comprehensive manual.

Price: £12.95 cassette, £14.95 on disk.

Contact: Supersoft Tel: 01-861 1166.

Revealed — the secret of "Success in Software"

After 3 months of writing Superior Software have revealed the title of their new programmer's handbook which is to be called "Success in Software".

The handbook will be given free to anyone responding to Superior's big budget Spring recruitment campaign.

Full colour advertisements will be appearing throughout the home computer press during March inviting people to send details of their abilities in exchange for "Success in Software".

"The response to last year's campaign was unbelievable and over 2500 people were sent a copy of the booklet 'Top Tips for Games Authors'" said Managing Director Richard Hanson. "This year we expect an even greater response and have many more projects to offer."

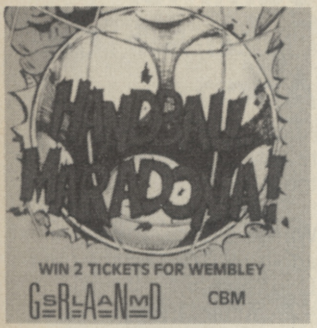
Public Domain Programs

"Frugalware", inexpensive public domain software, is available for the Commodore 64, the Commodore 128, and the Commodore Amiga. Three hundred disks containing over 8000 programs presently run on the C64 and C128. Some categories include Games, Utilities, Business, Graphics and Music.

The price per disk is $2.50, not including quantity discounts. The (on disk) Public Domain Catalogue and a FREE disk containing a Word rocessor, a Database, a Spreadsheet plus 30 additional programs is available for $2 Postage and Handling.

Twenty-five disks are available for the Amiga. The price is $4.95 per disk. Add $2 postage and handling.

SCHNEIDER SOFTWARE, 23 East Green St., West Hazleton, PA. 18201.



Grand Slam!

Hands up those who recognise the label 'Grand Slam' seen on the new 'Handball Maradonna' game! No-one? Not surprising! CCI didn't either. It is a brand new label specially created by Argus Software for its new mid-price (£6.95) sports simulation series. Argus, who already own Quicksilva, Mindgames, A'n F and Lothorien labels have planned a whole range of different sports style games for their new trademark.

Argus told CCi that Mindgame longtime favourite 'American Football' is re-released at £2.95 for Bugbyte (yet another Argus label!). 'American Football' has sold more than 80,000 copies and will soon be breaking that coveted 100,000 line.

Bugbyte is doing extremely well with many of its budget range titles, especially in Germany and other continential countries where its C16 games are in great demand.

Power House Games

The Power House (ex Alpha Omega) has announced the release of Return of the Space Warrior and Aftermath for the 64/128.

Do battle with the ferocious Space Warriors, but watch out for the vicious Colonel Warrior who gets nastier with every battle. Accept the challenge and fight to see if you are worthy to do battle with the Deadly Mutant Grand Egg. (The what? is this some kind of joke?)

In the Aftermath, the Saurans rule unchallenged. Death appears inevitable. No one has returned from the Strategic Command Centre, although it is doubtful that they ever got through the dreaded Discs of Death and the Impenetrable Veloscraft. However, there is one long surviving freedom fighter who cannot accept... His name, no doubt, is Major Billy Brown!

Both games will be £1.99.

Creative Sparks publishes Kele-line titles

Creative Sparks Publishing has recently signed with Kele-Line, a Danish development house, to publish a selection of top-quality software titles under the Status Software label.

Keld Jensen, Managing Director of Kele-Line, said "We are delighted that Creative Sparks will be publishing our titles in the UK. Creative Sparks already has a good range of leisure software at all levels — with this support we are confident that our titles will be successful over here."

Leigh Richards, Publishing Manager Creative Sparks, said "We are highly impressed with Kele-Line's professionalism and programming abilities and are confident that the products we publish will be rewarded by a level of success that will emulate that which we have already achieved with our own budget lines Sparklers and Super Sparklers. The move to full price software is a natural development."

Appropriately, the first title under this new arrangement is Vikings, a smooth scrolling arcade game story with the action associated with ravening hordes, graphics and sound.

Our heroic Viking sets out to rescue his Warrior Queen who is being held captive. Only by crossing seas, scaling enormous towers, burning down enemy villages, conquering fortresses and mastering the mysteries of the sacred labyrinth and enchanted grotto can he reach the Royal stronghold — his destination.

Viking will be published on 64 cassette, price £9.95.

Konix Awards

Wyn Holloway, first had the idea of an ergonomically designed joystick which would fit snugly into the hand 18 months ago. The joystick, which was finally launched last January was the first product from a new Welsh company, Konix. Since that time the joytick has outsold its rivals in the UK and abroad, Commodore Computing International chose it as their arcade joystick of the year and Konix have now won the New Enterprise Award in the Welsh National Business Awards. Yet, 3 years ago Wyn Holloway, the founder and Managing Director of Konix, was a carpenter.

"It all started" said Wyn "after I opened a computer shop in Clifton Street, Cardiff. Something which struck me early on was the amount of complaints we received about the reliability of joysticks. When games such as Daley Thompson's Decathlon and Track and Field were popular, almost half the joysticks we sold were returned.

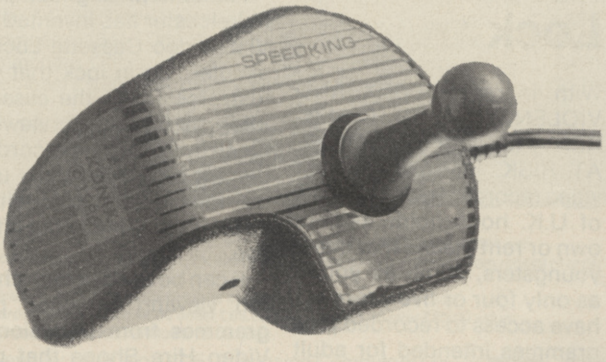
"As a carpenter I always used to like to carve friends' faces out of lumps of wood. One day I carved a joystick instead and that was how it started.

"I decided that a strong long-lasting joystick had to have highly efficient micro switches. Unfortunately, unless you buy them in massive quantities they are very expensive. In order to be able to sell our joystick at £12.95 we had to mass produce thousands of them in advance of receiving any orders. So my first task was to raise money and I was fortunate enough to obtain backing from the Welsh Development Agency and the National Coal Board and in August 1985 I was able to form Creative Devices Research, the parent company of Konix.

"Although Creative Devices Research was formed 18 months ago, our first product the Speed King joystick, was not released until last January. Since then it has really taken off. For example, at the last PCW Show we signed a deal with Epyx for the distribution of half-a-million joysticks in the USA.

"As to the future, we are researching into several areas at the moment. Not all of them are home computer related, but all of this is very confidential and we would not want the opposition to know. But we now have 47 people working for us and they are all very young and enthusiastic and so I believe our success will continue."

If the Speed King joystick is anything to go by, then Konix should remain a major force in the industry and one Welsh carpenter would seem to have hit the nail on the head!



Bubbling Aqua Racer

Bubblebus are adding a new title to their 'Mini-Bus Line' range.

Aqua Racer for the Commodore 64 .is a fast action boat-racing game and is available at £1.99 on tape.

In order to 'tidy up' the 'Mini-Bus Line' range, Bubblebus Software have decided to REDUCE ALL £2.99 games to £1.99.

L & H? Reindeer? Gordo y Flaco?

Comedy Stars of the silent era, Laurel & Hardy, are featured in a new game from Advance Software.

Written by Andy Wilson, who was also responsible for the CBM version of Dan Dare, Laurel & Hardy introduces a new programming technique called "Cinevision". In keeping with the original character of Laurel & Hardy films, the game is in black and white and the soundtrack features "organ music" accompaniment typical of early films.

The objective of the game is for Laurel or Hardy to locate their partner and throw a custard pie in his face. Complications, in the form of the Keystone Kops and an irritating little dog which keeps chasing the characters and biting their ankles, have to be overcome as the player collects items en route including the custard pie and a collar and lead for the dog.

The screen is split into 3 horizontal segments, the top and bottom thirds show Laurel and Hardy and the background in their current location. There are 250 different scenes including parks, streets, houses and shops. No game is likely to ever be the same as any previously played. The centre panel is again divided into 3 vertical sections; the left and right segments provide a "Radar" which indicate if the other character is within range. The centre section features the "organist" — who looks at each character from time to time as he plays.

The game can be played by one or two players — or against the computer.

The game has been in development for nearly 8 months and Advance have been negotiating the European rights to use the Laurel & Hardy characters. Advance decline to specify the amount paid for these rights but a "substantial" sum was involved states Marketing Director Robert Stallibrass. "However, Laurel and Hardy have a major following throughout Europe — with different names in various areas. In Scandinavia they are known as the Big & Little Reindeer; in Spain as Fat and Thin etc.

In developing Laurel & Hardy, Advance have ensured that it combines interesting features, varying scenes and playability.

Summer Events From Anco

Anco has announced the release of Summer Events for the C16/Plus 4, the follow up to the hugely successful Winter Events. Programmed again by CCI Oscar winning Udo Gerz.

Summer Events has six sections: Pole Vault, Swimming, Kyacking, High Board Diving, Cycling and Steeple Chase.

Summer Events includes the opening and medal ceremonies and options to compete or practise in all or some of the events.

With superb graphics and animation and enhanced with speech, Summer Events will be £9.95.

CCI's early look at the game makes us feel Anco has another 'gold medal' winner.

The Enhanced Enhancer 2000

Evesham Micros, well known for their range of utilities for the Commodore 64/128, have used their intericate knowledge of Commodore DOS to perform a heart transplant on the Enhancer 2000 disc drive.

The Enhancer, always been regarded as a good quality and reliable alternative to Commodores 1541, however, has suffered from some compatibility problems with protected software and disc turbo routines. This has been overcome and it is claimed that the unit is more compatible than some of the Commodore's own models." All disc turbos and virtually all disc protection schemes can be handled without problem.

Coupled with an attractive selling price of £149.95 (fully inclusive) and a very popular option to purchase it with the well known Freeze Frame Mk 3B and ten discs for just £179.95 demand has been very high and is increasing as word gets round.

Contact: Evesham Micros, 63 Bridge St, Evesham, WR11 4SF. Tel: (0386) 41989.

Video Cassette Lock

With increasing SEX AND VIOLENCE ON TV, CHILDREN ARE NOW EVEN MORE AT RISK. Massive sales of video recorders with over 30% of U.K. households said to own or rent means that many youngsters, some as young as only four or five years old have access to recorded programmes intended for adult only viewing, making a mockery of the U.K. broadcasting companies 9.00 pm rule. This is the rule that they say allows them to show explicit material at a ("safe") time.

Whilst until now there has been very little that responsible parents could do to solve the problem, short of locking tapes away, A SOLUTION IS AT HAND.

An enterprising company in Leicester has invented the VHS Video Cassette Lock, a simple-plug in lock that you just press in to the cassette after recording or viewing. Once installed, the recording cannot be played back until the lock is extracted with a special key. Simple but effective.

It can be used to stop children viewing recorded programmes from television or Video Hire Shops that parents would not wish them to.

It can be used to stop over-recording of tapes, that owners wish to keep for longer periods of time.

The Video Cassette Lock is now available in packs of 3 in major stores at £1.99 or direct direct VCL, Post Box 202, Leicester, Tel: 0533 555180.

CRL's Academy

Academy is to be released by CRL on the Commodore in the Spring of 1987.

Academy continues the theme of Tau Ceti and incorporates the stunning 3D graphics developed for the original Tau Ceti.

You have enrolled in the top secret training school of the Galcorp Academy for skimmer pilots. While there you learn to design your own space ship and participate in many classes, a number of which are so secret that they can only be revealed to qualified skimmer pilots.

On graduation from the Academy you will take the space ship you have designed to 20 varied missions, encountering aliens and practising the top secret theory you have learnt at the Academy.

Price: £8.95 (c), £14.95 (d).

Graphic Transmission

British Telecom and the Tunbridge Wells company Viewtext have jointly launched a private viewdata (videotex) system that is able to send colour stills in about half a minute over ordinary telephone lines.

Viewdata is a standard format and phoneline transmission system for text and graphics and is used by the BT Prestel public information service for display on TV monitors. Viewtext's system uses the same technology but is for the formation of private systems by companies that need to send colour pictures as well as text and graphics.

Viewtext's marketing manager Denise Closier believes travel agents will be the first to use the system but she is also talking to estate agents and picture libraries. Picture quality is equivalent to that on domestic television.

The starting price for those not already equipped with a private viewdata main computer is from £20,000, plus the cost of IBM personal computers/software as working terminals, and the cost of colour cameras.

Contact: Viewtext, Tel 0892 511000.

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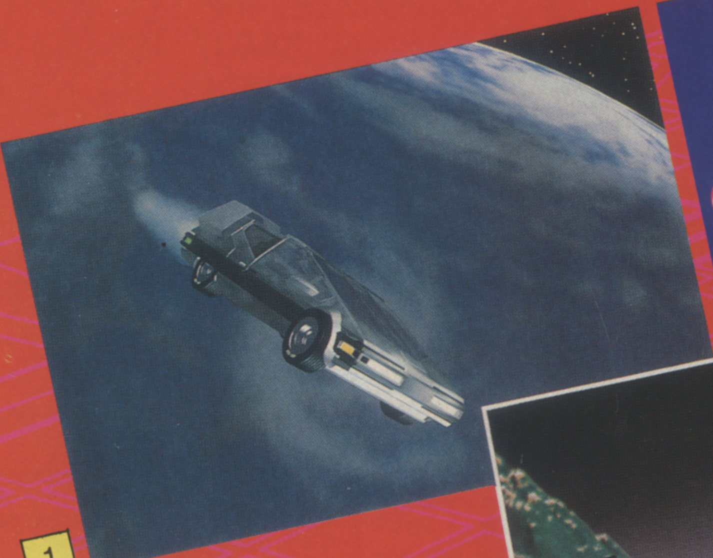

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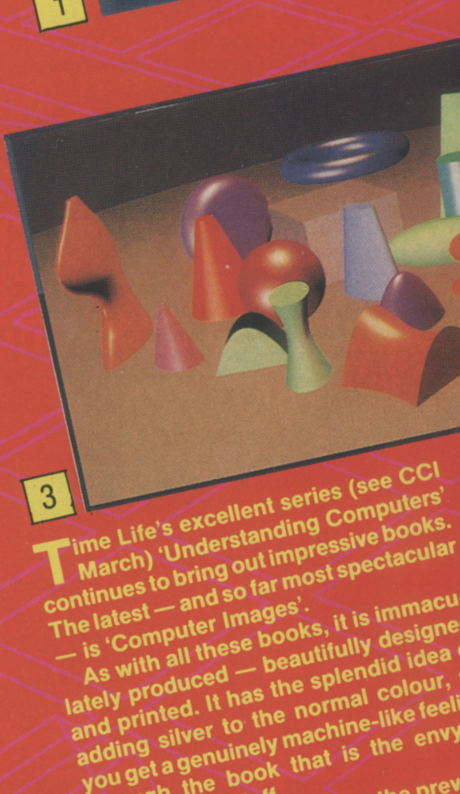

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Time Life's excellent series (see CCI March) 'Understanding Computers' continues to bring out impressive books. The latest — and so far most spectacular — is 'Computer Images'.

As with all these books, it is immaculately produced — beautifully designed and printed. It has the splendid idea of adding silver to the normal colour, so you get a genuinely machine-like feeling through the book that is the envy of CCI's design staff.

It has been written, as in the previous volumes, "Computer Basics" and "Computer Software", in a style that is simple enough for the complete novice yet full enough of information to satisfy anyone who is not an absolute expert in computer graphics.

It covers the whole gamut of computer imagery from how a monitor works to the wonders of weather forecasting, from arcade games (did you know that in 1981 15 year old Steve Bureszek spent 16 hours and 34 minutes for one coin in a Defender video game? Neither did I!) to the incredible marvels of computer art we take so much for granted in SF films like 'Star Wars' and 'Tron'. It describes in clear uncomplicated language how these extraordinary images are created and provides an absolutely stunning selection of pictures to illustrate the wonders that computers can achieve.

With the AMIGA bringing this level of computer graphics within the possibilities of the home computer owner, I cannot recommend this' book too strongly as an excellent introduction and source of information on the subject.

A.M.

Price: £14.95 (available by mail order at £12.95 plus £1.75 p&p).
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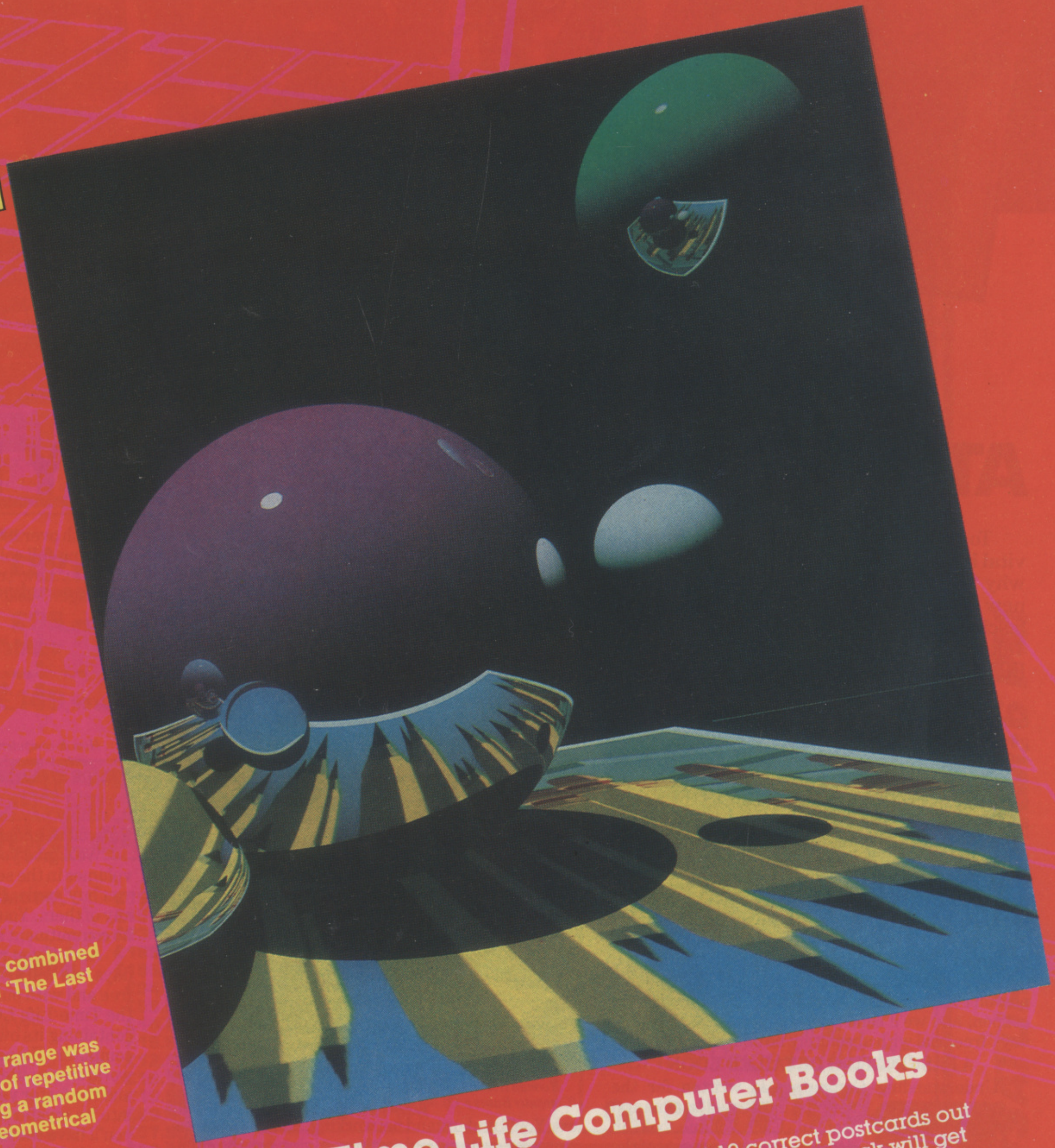


1 A computer simulation, combined with an actual car from 'The Last Starfighter' film.

2 This fractal mountain range was produced by a chain of repetitive calculations including a random factor to eliminate geometrical regularity.

3 Building block shapes available within modelling programs.

4 Computer-aided engineering techniques are widely used in the automobile industry.

5 An image from a computer animated film.

6 Five hours of calculations were necessary to trace the thousands of light rays that compose the reflections, refractions and shadows in this fanciful computer graphic of spheres floating above a forest of pencils.

Photographs courtesy of Time-Life Books

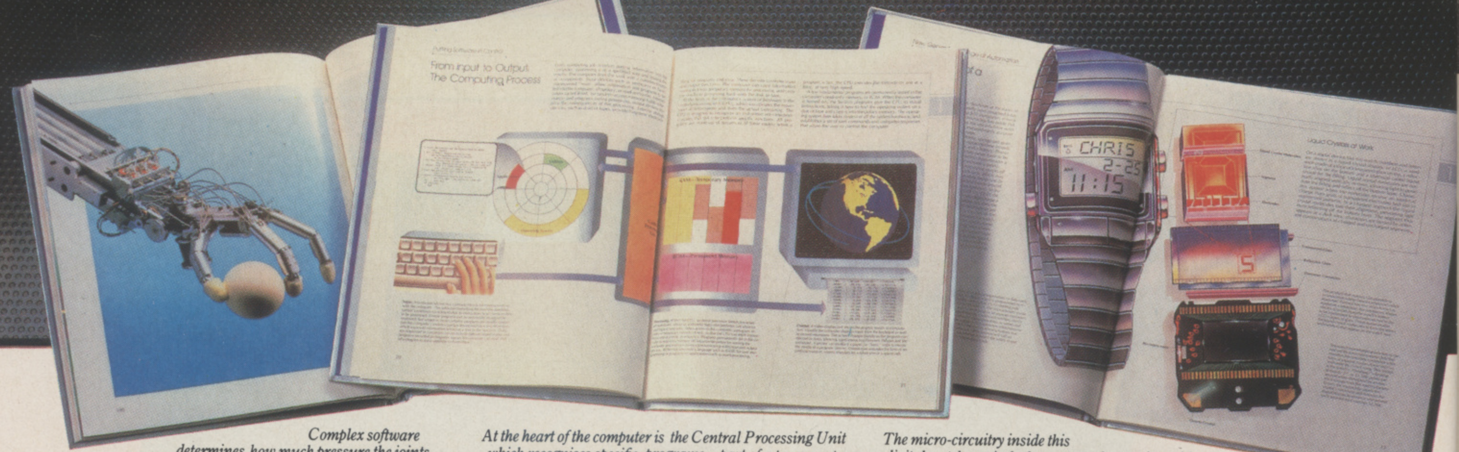
Win Time Life Computer Books

Time Life have offered 10 copies each of 'Computer Images' plus 10 copies each of their already published 'Computer Basics' and 'Computer Software' to CCI readers for a competition.

The first 10 correct postcards out of the competition sack will get each of the three books.

Answers on a postcard to:
'Computer Images Competition',
CCI, 40 Bowling Green Lane,
London EC1R 0NE.

1. Who was the founder publisher of 'Time Magazine'?
2. Name two 64/128 graphics packages
3. Name one AMIGA graphics package
4. What single colour — on a computer — can make up a multicolour screen?
5. What are the 4 prime colours used in normal multicolour printing processes?



Complex software determines how much pressure the joints of this mechanical hand must exert to safely pick up an egg. (Software, p.100).

At the heart of the computer is the Central Processing Unit which recognises specific programs – part of a program to track satellites is illustrated here. (Software, p.21).

The micro-circuitry inside this digital watch reminds the wearer of a meeting with Chris at 11.15 on February 25. (Computer Basics, p.17).

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Computers on chips: this device, twice actual size, contains a complete computer processing unit. (Computer Basics, p.83).

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The forerunner of mighty IBM was this census tabulating machine built in 1890 by Herman Hollerith. (Computer Basics p.13).

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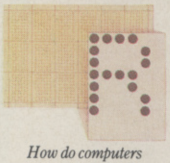

How do computers generate letters? Page 52 of Input/Output will tell you.

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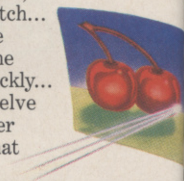
What goes on behind computer monitor? Page 54 of Input/Out goes into the full deta



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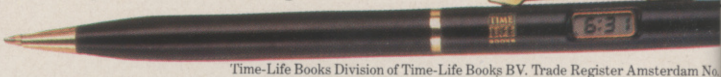

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Dear Rae...

This month your letters are answered by Rae West. Rae is the author of three large reference books on Commodore computers; the latest is Programming the Commodore 64, following Programming the VIC and Programming the PET/CBM. All are published in the UK by Level Ltd. Rae is also published in the USA by Compute! Books.

SIX 128 QUESTIONS

Dear Rae,

I have a C128 with a printer, disk drive, and monitor.

1. I have an FM radio near the computer; will this disrupt it in any way? 2. I have a Commodore mouse which plugs into the joystick port, therefore I can only move in 8 directions. Is there any way I can get more directions in my own programs? 3. How can I dump a 40-column or 80-column screen to the printer? 4. When I turn my computer on last, it checks for a file on disk and boots it. How can I achieve this in my own BASIC programs? 5. How can I speed up the cursor flashing on a 40-column screen? 6. Finally, is there any way I can use the 'fast' mode in 40 columns without the screen going blank?

Riki Douglast, Auckland N.Z.

1. No; a radio won't affect your C128.

2. The control ports on the side of the machine aren't necessarily 'joystick ports' — you can plug in analogue equipment, for example 'paddles', and read these with PRINT POT(1) through to PRINT POT(4) on the C128. Commodore's 1350 mouse has this sort of facility, so the POT function would allow you scope to design plotting software. However, your mouse (you haven't told me its type) may be designed in the cheapest way, on joystick lines, only able to distinguish north-south and east-west movements, giving 8 possibilities. If this is so, you'd need the more expensive hardware for a true mouse effect.

3. A 40-column screen in the C128 occupies 1000 bytes and usually starts at 1024, like the C64. You haven't said what type of printer you have; but basically there are two types of screen dump, one which gives an exact dot-by-dot copy (at least as far as colours allow), and a faster and easier type where the text is simply printed out as it comes from the printer. No Commodore computer has an inbuilt screen dump feature of either type. The easiest way to dump a 40-column screen is to PEEK locations 1024 onwards, convert the result into ASCII, and print. Because PEEK values aren't the same as CHR$ values this is a bit complicated. Page 175 of 'Programming the Commodore 64' has a program to do this.

80-column screens are displayed with the 8563 chip (not present in the C64). This chip has 16K of RAM all to itself (because 80 columns by 25 rows of 64 pixels per character occupy 16000 bytes). This can only be read by machine language; an address register (at D600) has to be written to, before the data in D601 is read. So a 'simple' 80-column screen dump resembles the 40-column equivalent, but in place of PEEK you'll need, fist, POKE DEC ("D600"), 146: POKE DEC ("D601"),0: POKE DEC ("D600"),147: POKE DEC ("D601"),0 to set the start address to zero; then 2000 reads, using POKE DEC ("D600"),159: P=PEEK (DEC("D601").

4. The 128, on switchon, checks disks for a combination of characters; if it finds them, it loads the named program — rather in the way cartridges work. If you have a disk sector utility, use it to read track 1 sector 0 of any autoboot disk; you'll find it starts with CBM, followed by the starting address, RAM bank, and program name. Full details are complex: you could look at a good book on the C128, for example the Programmers Reference Guide (page 446 & following. Tel: 0403-710971 if you can't find this book).

5. You can't speed up the cursor flash on the 128 by increasing the interrupt rate — like the C64. In order to allow split-screen mode, interrupts are deliberately timed to coincide with the scanline as it gets to some set position down the screen; the only way around this is to move some of the interrupt processing into RAM and alter the timing constant.

6. No, the 40-column screen always blanks in fast mode. But if you have (for example) a calculation program, you can speed it up with POKE 53296,1 then return to normal with POKE 53296,0 to display the results; this takes half the 64's processing time.

GEOS AND MICE

Dear Rae,

I've purchased GEOS by Berkeley Softworks and also a Neos mouse by Nihon Electronics Co. Ltd. I would like to control GEOS with the mouse, but there is not a driver program on the disk. I have 'Artist 64' by Wigmore which has a driver program for the mouse; I put this onto the GEOS disk but it will not pick up the driver. Can you please help?

Yours hopefully,
P.D. Thomas, Billingham

The Neos mouse, or at least the ones I've seen, appear to be low-budget devices, which simulate joysticks — see my reply to the previous question. You'll find if you use the joystick driver that your mouse works with GEOS, although only 8 directions are achievable. This is fine when picking programs to run, and generally controlling the system — but isn't so good with GeoPaint, where you might want to draw curved lines.

At the last count, Berkeley Softworks hadn't got around to writing a mouse driver, mainly because they were awaiting Commodore's official mouse, the 1350. Since this now exists, I'd expect them to have a driver at any time, and as a GEOS purchaser you'd be entitled to this upgrade.

WORDPROCESSING PROBLEM

Dear Rae,

Using my C64, 1541 disk drive, Epson RX80 printer and Stack Centronics Interface with EasyScript I have found it impossible to access the printer's finer attributes. The shop that sold me the package has not been of any help. What would you suggest?

Yours faithfully,
Alan Wilson, Sale, Cheshire

Precision Software, Publishers of EasyScript, have a helpline. Try them on (01) 330-7166.

OLDIES & GOLDIES

Dear Rae,

At this College of Higher Education, we have a number of Commodore PETs, which continue to give valuable service, teaching students BASIC.

Some students have access to other Commodore computers, and like to run it through one of our PETs to print listings and results. A quick way of preparing a PET to load a program prepared on a 64 is: POKE 41,8: POKE 2048,0: NEW. I now have students who have access to a Plus 4. I wonder if there is a simple method of loading a Plus 4 tape program into a PET?

Yours sincerely,
Henry Mills, The College, York

Your method (with explanations) appears on p. 593 of my 64 book; some of your students might like to know that a 64 can be reconfigured to resemble a PET, enabling them to run some of your PET tape software; p. 594 has one program, and pp. 260-1 a more comprehensive version.

However, the Plus 4 uses a different system of recording onto tape from other CBM machines — its chip is edge sensitive, rather than relying on level. Its tapes are incompatible with PETs, so there's no simple method of reading them into PETs. A possible solution might be to transfer to a 64 with an RS232 cable connected to a user-port adaptor, and opening files to device 2. Or you could use disks.

Dear Rae,

I own a VIC-20 and a 1541 disk drive. Lately the disk drive has been playing up; the red light flashes and the drive makes a woodpecker noise. The programs hardly load.

Anthony Page, Bristol

I'm afraid your drive is out of adjustment and needs maintenance. ICPUG (Independent Commodore Products User Group) can give unbiased advice if you need it. (Membership secretary is on 01-01-349-3998.

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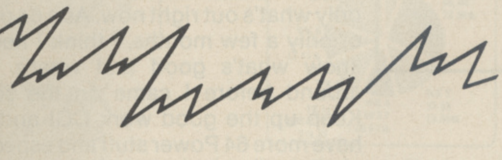

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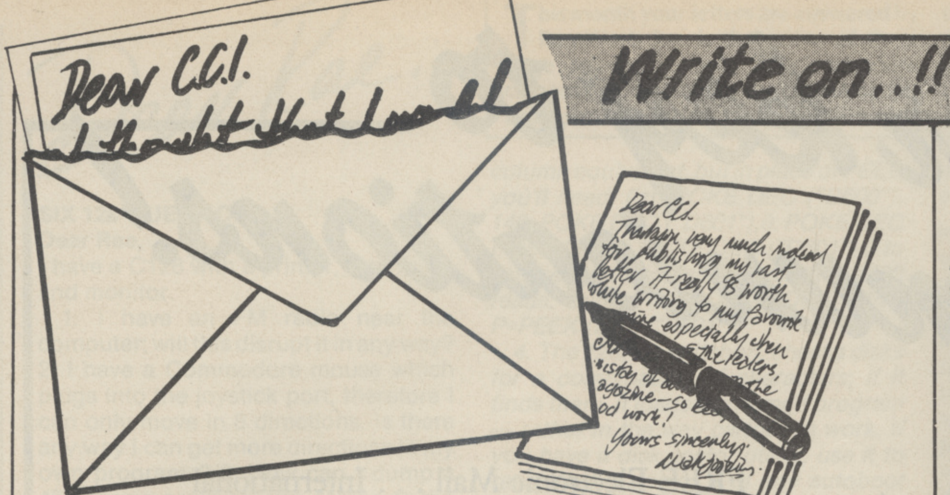
Dear C.C.I.
I thought that I would
Dear CCI.
Thank you very much indeed for publishing my last letter, it really is worth while writing to my favourite magazine especially when ... the readers, ... the magazine — so keep ... good work!
Yours sincerely

Write on..!!

Dear C.C.I.,

We all know that Jeff Minter loves to shoot his mouth off and more power to CCI's elbow for giving him the space to do it but is the 64 really going to die? I'm not so sure. Why? Because it's all very well to say that the AMIGA and ST will become the 64 and Spectrum of 1989 but that won't happen till there is a lot more software, especially games, about. And as Zack Skinner said on 'AMIGA User' most AMIGA games are not much better than the 64 versions.

I reckon that is because hot shot UK programmers like Jeff Minter talk a lot, drink a lot of beer, but when it comes down to it stick to writing games for their old 64's, C16's even Vic 20's! While that's going on, the 64 will live forever — hooray, say I. So come off it Jeff! Don't tell us what may happen, let's hear from you what *you* are doing to make games on the AMIGA that explode off the screen and into our living rooms. Put your money and your talent where your mouth is Mr. Minter.

Yours,

Bob C. Wave, Newquay, Cornwall.

Jeff Minter replies:

The move to the ST and Amiga has already started, and will continue apace. Far from sticking to the 64, I was one of the first to program for the Atari ST, producing the second-generation version of Colourspace, which is a well-established exploder off many screens into many living-rooms all over Europe; and I've an Amiga project to start when I've finished the current 64 game, as well as some more Colourspace work. The reason I still program the 64 is that I've had a lot of support from 64 people over the years and it'd be a tad unfriendly to just up and leave them with nary a pixel as soon as I get hands on a 16-bit system. I don't turn out 64 stuff end-to-end like I used to; for the current market I like to alternate 8- and 16-bit projects. All that will happen is that I'll gradually phase out the 8-bit stuff as more people upgrade to their Amigas and STs.

Dear C.C.I.

I was quite surprised to read in your MARCH issue in the Hints and Tips section that the Commodore 128 has no BASIC command to position the cursor. In fact it has!

The CHAR command works just the same in low-res as in hi-res for positioning text on the screen.

The syntax is: CHAR colour source, X, Y, string, RVS
where: colour source = 1 — Background, 2 — Foreground X = desired column (0-39 on 40 col screen), (0-79 on 80 col screen). Y = desired row (0-24)
string = Variable or text within quotes
RVS = Reverse flag (0=off 1=on).

Or by using just CHAR colour, X, Y the PRINT or PRINT USING command can be used afterwards to format output as required.

Yours sincerely

W. Crooks, London E11.

Ian Bennett replies: "Oh all right then! Just testing to see if any of the readers actually read my 'Hints & Tips' section".

Dear C.C.I.

I have recently returned to my home in Spain, armed with my usual issues of C.C.I., and entered the Minisheet Program (Pages 71-76, Sept 86) which *seemed* most useful to me.

With the program *not* working, I have spent *many hours* checking my own entries (on a Commodore 64) only to find, after that, that there are *many, many* errors in your listing — this has been a tremendous frustration with my limited knowledge of programming.

As, no doubt, many others have so complained, including the author — David Gibbens, please now send me a correct listing or the numerous corrections that must be applied to your published listing. The program as published, still does not work after many hours of work.

Your faithfully

G. H. Perkins, Alicante, Spain

Ian Bennett replies: "There were no problems with my copy. If you'd like to send me a copy of your version, c/o C.C.I., I will have a go at fixing it."

Dear CCI

I think your 64 Power features are great. They are long overdue because all the other Commodore mags never tell us about what has been around for a while, only what's out right now. As a 64 owner of only a few months, I think I need to know what's good and what's been around before I came on the scene. Keep up the good work CCI and let's have more 64 Power stuff and especially articles about the best 64 software not just the latest.

Yours faithfully,

Martyn Larder, Reigate, Surrey.

We realise that there are many new 64 owners who are just becoming CCI readers. We'll do our best, as you suggest to give them an update on all the really top software — and hardware — for the 64, shall we call it 'Golden Oldies'?

Dear C.C.I.

I own a Commodore 64 and I wish to obtain some software programs listed in books. The programs that I am interested in are as follows:—

Astronomy
Electrical Theory
Electronics Theory
Building electronic circuits which can be controlled y the C64.

I am looking forward for you reply.

Yours faithfully

Mr J Vella, 108/3 St Dominic Street, Valletta

Anyone out there know of any programs to help, Mr Vella? Write to him if you do.

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Yours, C.C.I.

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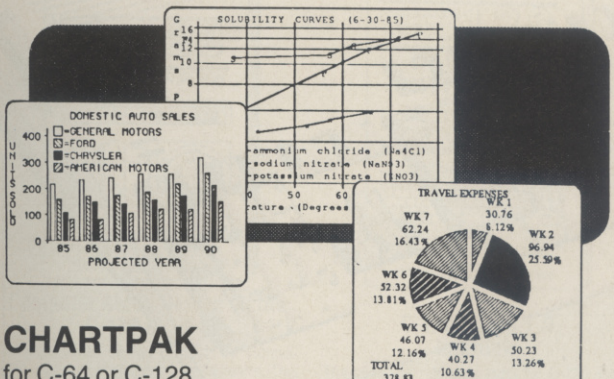

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AB 542	Commodore 64 disk	£24.95
AB 544	Commodore 128 disk	£34.95

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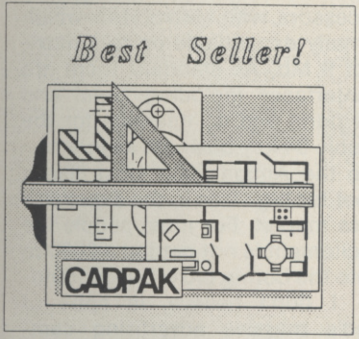
Has all of the same features and functions of its sister program ChartPak, but plots your results on plotters. You control the chart building from your keyboard. CHARTPLOT-64 lets you record the final results in colour on Amdek, Hewlett-Packard, Houston Instruments, Roland DG, Strobe or Sweet-P plotters, as well as the 1525/MPS-801/1526, Epson, Gemini, Okidata (Okimate black & white only) or C. Itoh Prowriter printer.

AB 547	Commodore 64 disk	£34.95



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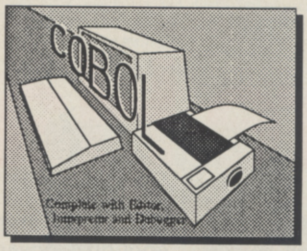
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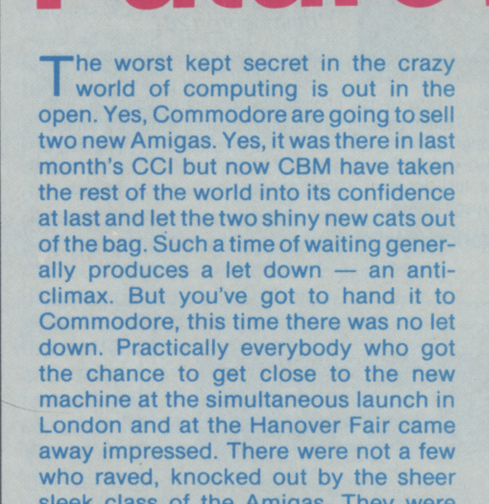
2000... 500...

The Amiga 500 showing its integral disk drive of 880k

'The Future Has Arrived'

The worst kept secret in the crazy world of computing is out in the open. Yes, Commodore are going to sell two new Amigas. Yes, it was there in last month's CCI but now CBM have taken the rest of the world into its confidence at last and let the two shiny new cats out of the bag. Such a time of waiting generally produces a let down — an anticlimax. But you've got to hand it to Commodore, this time there was no let down. Practically everybody who got the chance to get close to the new machine at the simultaneous launch in London and at the Hanover Fair came away impressed. There were not a few who raved, knocked out by the sheer sleek class of the Amigas. They were mostly press people who had not really taken in before just what the Amiga has to offer. And what do the new Amigas have to offer over the "old" Amiga 1000?

The two new machines are for very different target audiences. CBM claim that the three pronged attack that the 500, 1000 and 2000 gives them is enough to cover everyone who wants to enjoy and profit from computing. Certainly, the top of the range 2000 which contains, in effect, a PC at the same time as an Amiga and the ability to move multitasking between the two different modes, is going to have a big appeal for the business market. figurations. Prices in the U.K. start at around £1,000 for a 2000 with a single 3.5 in drive, 1Mb of Ram, plus Keyboard and mouse. A monitor ups the price to £1,395. It is, however, pretty unlikely that anyone who really wants it for business is going to be content with that minimum configuration and would probably need to spend about a total of £2,000 for 5¼ in drive and other necessary extras. Even at that price, the 2000 looks convincing as a top class machine that can serve many purposes.



CBM's new powerful topgun for the business market the Amiga 2000

Chris Kaday CBM's U.K. M.D says. "The reaction from the corporate market has also been extremely encouraging as they have a growing need to add power and flexibility to desk top computing whilst retaining existing MS-DOS standards. The A2000 will be aimed at the existing markets of CadCam, process control, business presentations, communications and terminal emulations, whilst also establishing the new markets of desk top and interactive video."

For the first time the Intel and Motorola processing environments have been brought together in one machine, so the user can run the large range of MS-DOS business software with the fast, powerful graphics-orientated 68000 environment in true multi-tasking mode. As well as the ability to co-process and multitask, the A2000 offers further flexibility by providing a variety of disk combinations: 3.5 in, 5.25 in and 20 meg or 40 meg hard disk and tape streamer.

In specification terms, the A2000 is based on the proven Motorola 68000 running at 7.14 MHz supported by three co-processors, with 1 Mb of RAM which is internally expandable up to a maximum of 9 Mb. As standard there are eight interfaces including serial and parallel ports and an interface for the detachable 94 key business keyboard.

While the Amiga 2000 looks like a good bet for big sales in the expensive business market. For most people the real excitement is not getting a 2000 to slide into the boring old MS-Dos standard — I don't believe, in spite of Amstrad's massive advertising campaigns they are really going to persuade every home to buy one of their or anybody else's PC for ordinary use, which everybody knows is mostly playing games or at best word-processing. No, not even if the 2000 can give you MS-Dos business packages and an Amiga at the same time. No, the £2,000 mark is really far above most people's needs or dreams even. What really stirred the hearts and minds was the Amiga 500. Now, here we have something to speed up the pulse and for which to examine the bank statements. For the 500 is, as CBM modestly calls it: "The best home computer at any price."

CBM managed to warm my own anti-

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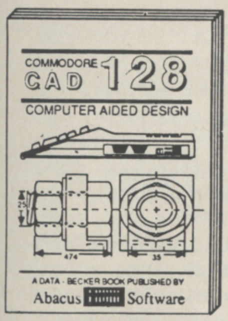
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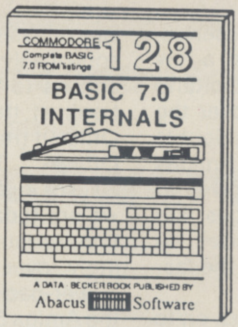
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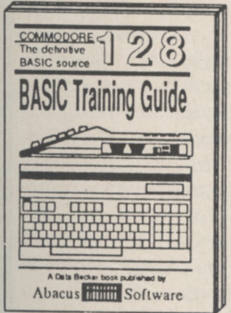
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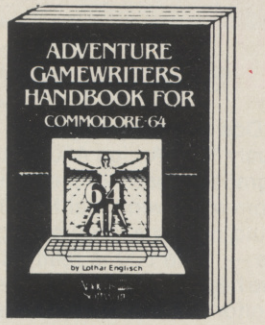
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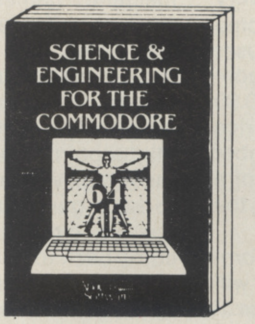
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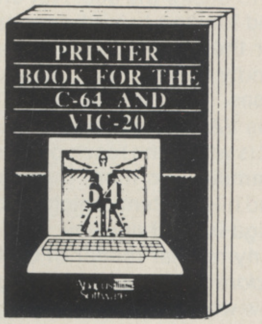
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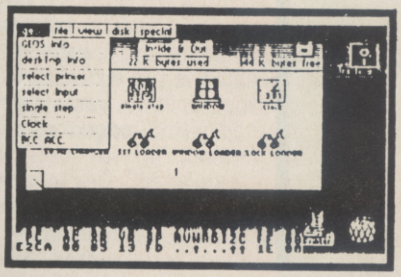
NEW

GEOS
Inside and out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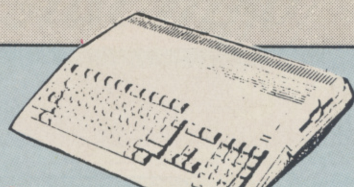


'The Future Has Arrived'

CONTINUED

MSDos heart by saying a little pompously "The Amiga A500 is the ultimate upgrade for users of these machines for whom a conventional MS-Dos offering would not be a large enough step. It's true — "The 500 is really the 1000 we have had around since last year shorn of monitor and with the whole thing in a 128 lookalike case. It has virtually the same performance as the 1000. It has the same chip — Motorola 6800 with unlike the first 1000s that came out with only 256K-512K Ram already on board. You can add-on extra drives and all the other fancy peripherals that *your* heart desires.

And I think you would have to be pretty cold hearted in computer terms not to desire the 500. Not only is it very good looking but it brings to the home user the extraordinary sweet and user friendly power that the Amiga possesses. At the U.K. cost of £499.90 (plus VAT), it is a machine with a price that is within the reach of a large number of families; no more than the cost of a good hi-fi system, which, by the way, the Amiga is itself anyway.

Any regular reader of CCI and *Commodore Business and Amiga User* will know what we think of the capabilities of the Amiga and we are delighted now that so many more people will have the chance to enjoy the pleasures this tate of the art machine provides. What was most interesting about this cheap Amiga is that it made the software world sit up and take notice where they had been, in many cases, unaware, or even resistant to, the consciousness of its growing popularity. Suddenly, the computing world is taking the Amiga seriously as a business proposition — for themselves.

Software companies that just a few weeks ago, while grudgingly admitting the superiority of the Amiga over the Atari ST, and who were offering doubts as to there ever being enough Amigas sold to merit them getting involved in producing products for Amigas are suddenly committing themselves to bringing out Amiga software in the fastest possible time.

By the time that the 500 comes on to the market around June — probably in the U.K. at the Commodore Show — virtually all major and many minor software companies will be quite a way along to bringing out Amiga software. That is particularly exciting in the entertainment field. Games like Mindscape's "Defender of the Crown" and the forthcoming "King of Chicago" have already caused a sensation, making every other machine's games look out of date. But they are only a taste of the future. What is to come, with all the amazing scope the Amiga offers to developers and players alike cannot yet even be imagined. It is not just ironic, as Jeff Minter pointed out in a recent CCI, that the Amiga which was originally created to be a games machine, should pass the big circle through business and come back to being a perfect computer for home entertainment: no, it is not just ironic but terrifically appropriate poetic justice.

It isn't too much to say that the 16/32 bit software that will emerge to satisfy the Amiga market will make the 64 software of today look like the kind of things played on the old Sinclair 1 or 2 k machines. As it is, creativity, even at the 64K level has stretched, in just the last year or so, into new levels of sophistication. How far ahead were games like Uridium, The Pawn, Marble Madness, Chessmaster 2000 than their predecessors of only a year or so before? And that applies to more serious software too. Look at the difference between Mini Office II (reviewed in this CCI) and Mini Office I . . . The Amiga 500 will bring that level of jump into the future from where we are today. As someone said, at the London launch, running his hands longingly over the smooth lines of the power-packed superior-looking box of the Amiga 500, "The future has arrived".

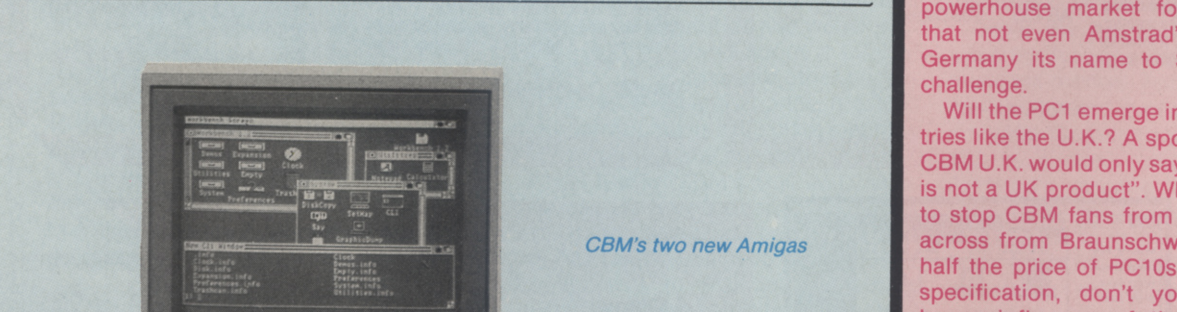
A.M.

Late News

By the way, at the very last moment, in Hanover, Commodore, without the fanfare they blew for the Amigas, shyly brought out a new PC. Yes, another straight MS-Dos clone — with great originality called the PC1. What was so special about it, after all CBM already has the PCs 10, 20 and 40? Well, only one thing — its price. In Germany, where it was made, it is priced at around £450. Yes, cheaper really than the Amstrad, though there are already other PC clones that have undercut Mr Sugar's baby's price anyway. But at £450 a CBM PC must have a future, even, as someone put it "If only at the expense of the PC10".

CCI's information is that at the moment, the PC1 does not even have a production line ready for it, that it is just there to match the Atari PC and ensure that the lucrative German market stays Commodore's own property. As CBM PCs are made in Braunschweig, West Germany, that country's nationals regard CBM as their own company and are a powerhouse market for Commodore that not even Amstrad's changing in Germany its name to Schneider can challenge.

Will the PC1 emerge into other countries like the U.K.? A spokeswoman for CBM U.K. would only say that "The PC1 is not a UK product". Which is unlikely to stop CBM fans from bringing them across from Braunschweig if they are half the price of PC10s with a similar specification, don't you think? The heavy influence of the German PC market, in our opinion, should not create an MS-Dos mirage to take CBM's eye off what ought to be its main objective — the domination of the next generation of home computers with the 68000 chip Amigas.



CBM's two new Amigas

The 64 Software Centre

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Amiga Software

BUSINESS

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Mycrosystems	Scribble Wordprocessor v.2	£95.00
	Analyse Spreadsheet	£110.00
Precision	Superbase	£140.00
Gold	Pagesetter Desk Top Publishing	£140.00
New Horizons	Flow Idea Processor	£99.00
Sedona	Money Mentor Personal Finance	£95.00

HOUSEHOLD

EA	Financial Cookbook	£39.00

UTILITIES

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Aegis	Images	£69.00
	Images Artpak	£46.00
	Animator	£120.00
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	Draw-plus	£290.00
EA	De Luxe Paint II	£139.00
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	De Luxe Print Data Disk 2	£30.00
	De Luxe Video Constr. Set	£90.00
	Instant Music	£39.00
	Music Construction Set	£99.00
Kuma	K-Seka 68000 Assembler	£75.00
Lattice	C Compiler v.3.1 (Developers Version)	£225.00
Manx	Aztec C Compiler (Developers)	£290.00
Metacomco	MCC Pascal	£85.00
	Amiga Toolkit	£30.00
Mindscape	Keyboard Cadet Typing Tutor	£39.00
Modula 2	Modula 2 Developers System	£149.00
Unison	Printmaster Plus	£49.00
	Printmaster Art Gallery (1 or 2), each	£29.00
Zuma	Fonts 1, 2, 3,/ each	£29.00

EDUCATIONAL

FB	Math Talk	£49.00
	First Shapes	£39.00
Sierra	Winnie the Pooh	£24.00
Unicorn	Fraction Action	£49.00
	Decimal Dungeon	£49.00

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EA	Chessmaster 2000	£49.00
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GAMES

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	Marble Madness	£49.00
	Arctic Fox	£29.00
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Cosmi	Superhuey	£39.00
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	World Games	£39.00
	Winter Games	£39.00
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	Moonmist	£29.00
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All prices include VAT —
Add £2.00 for P&P (UK and Europe). Add 20% for other countries.

Software is not sold on a trial basis

FIGHTING WORDS

The Jeff Minter Page

There are not many real stars in the computer world, but among them undoubtably glitters Jeff Minter, creator of innumerable smash-hit games. We've given Jeff the freedom to say what he wants (libel laws permitting!), so look out for his hard-hitting pages in future issues of CCI. You may not always agree with what he says, but he's certainly worth listening to. CCI won't always agree with what he says either, but we promise to print it anyway!

Greetings, Back from the mountains and still working on Revenge II. I got some great work done while I was there, and some great ski-ing too, and quite a bit of boozing despite the high price of beer...

It's really odd when you go ski-ing to see whole areas of quite inhospitable mountainous regions that have been transformed, at great cost, into places where mature, responsible adult human beings, the type you see on the Tube with the briefcase-and-the-brolly and think 'God I'll shoot myself if I ever get to be like that'; these executives and other assorted successful business people come to these mountains and just slide down them, all day, every day. And they take it so SERIOUSLY! How can people get so serious about sliding down mountains? They seem to forget that the reason y'go ski-ing is to have a good time!

Anyway, a lot of that's beside the point, I just wanted you to grasp this surreal picture of an entire community up in the mountains, a huge industry throughout the Alps, dedicated to and sustained by adults playing around on slippery slopes just like we all used to as kids. That's what I'm on about this month: play. We all do it as kids, and we still do as adults, although by that time it is a lot less useful because it has become 'formalised' play, sports for example.

Doesn't it just get your goat, when you see one of those horrid adverts for some business program or other that exhorts you to 'STOP PLAYING WITH YOUR COMPUTER' and get down to some serious spreadsheeting/databasing or something else equally soporific? Well, I reckon that, especially with the new generation micros, it will be most important that you DO play with your computer, more important in fact than running any business stuff at all.

To understand why, you have to get straight what I mean by 'play'. Most people understand play to be a leisure activity, something trivial you do when you're not at work or at school. An exceedingly simple procedure is often described as being 'childs play'.

This is a BIG misconception. The playing of a child is in fact LEARNING. As a child plays with objects in the world around him, he learns about those objects and their relationship to the world in which he lives. As he plays with other children, he learns about relationships, friends and adversaries. As a child grows older, the play urge is restricted and become attenuated and formalised, losing its usefulness in the process. There isn't a lot of practical stuff to be learned from playing football (except knowledge of football, of course).

So the way I see it, rather than the idea that play=idleness, it would be more correct to think that play=experimentation. Experimentation leads directly to learning.

You're probably thinking 'yeah, this is all well and groovy, but where does my Commodore come into all this?' It's all down to that new branch of software I was talking about last time, the type that enhances and develops your creative skills rather than just tweaking your hand-eye co-ordination. That's where creative playing with your computer starts. At the moment the choice is pretty limited — you can play with graphics or you can play with music but that's about it.

However, in the immediate future, it's going to get a whole lot better. With stuff like CD-ROM storage media, you're going to be able to get access to some pretty heavy databases, and although you probably won't feel inclined to use these databases raw, someone's bound to bring out some software specifically designed to let you play with them... as an example of what I mean, look at the Domesday Machine by Acorn. You get a Laservision player, a BBC Master or RML Numbus and a mouse. You start with a satellite photo of the UK. Point with the mouse to anywhere you fancy and a larger-scale map appears. Point again and you get detailed info on a given place, down to pictures, spoken word, and even sometimes animated film. By just 'playing' with this machine enough, you'd learn a great deal about the geography and economics of the UK. This is just an isolated example, but the basic idea is what I'm trying to explain: you take a complex and normally uninteresting database full of facts and present it in such a way that it becomes simple to meander about in; aimless meandering soon turns to interested exploration, and before you know it you're learning stuff, AND having a great time too.

The principle of play-as-learning could be extended to stuff like maths. If you had a program which enabled you to play with mathematical functions in real-time and express them graphically via plots, dynamic sequences, colourflows and maybe even sound, would it not be a tass thing to play with in a darkroom after you'd had a few, and mightn't you pick up a bit of maths as you became more proficient at using it? I know I've regained a lot of my own school maths which had all but seized up recently, by 'playing' with mathematical graphics using FastBasic on my ST.

So next time someone says to you that you ought to stop playing with your computer, you can tell them exactly where to go. In fact that's the way I got interested in programming in the first place — after I'd played a couple of games on the Commodore Pet at college and wanted to make up some myself!

Right, I'm off to do a bit of playing of my own — I'm going to play with my sprite editor, 'coz I need 100 wavesworth of sprites for Revenge II, and I'm going to play the new early Pink Floyd CDs I bought today in London...

J.M.

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Fieldmaster	Sales Ledger	d £35.00
	Purchase Ledger	d £35.00
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Dell	Invoice Generator	d £20.00
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	Pocket filer 128	d £49.00
Fieldmaster	Record Card	d £10.00
Precision	Superbase (64)	d £40.00
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	Superbase Starter	d £20.00
Timeworks	Data Manager 2 (128)	d £40.00

WORD PROCESSORS

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Cardco	Spell Now	d £29.00
	Write Now	r £59.00
Digital	Pocket Writer 64	d £39.00
	Pocket Writer 128	d £49.00
Hesware	Heswriter	r £29.00
Precision	Superscript (64)	d £40.00
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Supersoft	Word Perfect	t £10.00
Tasman	Tasword 64	d £19.00
	Tasword 64	t £17.00
Xetec	Fontmaster II (64 or 128)	d £60.00

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	Superpack (Filer, Writer, Planner for 128)	d £99.00
Fieldmaster	Worksheet	d £10.00
F.P.	Powerplan	d £40.00
Practicorp	Practicalc II	d £30.00
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Abacus	Chartpak 64	d £24.00
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EA	Music Construction Set	d £15.00
Firebird	Music System	d £17.00
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SC	Chessmaster 2000	d £39.00

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	Bridge 4	d £29.00
Bridgemaster	Bridge tutor	t £17.00
GGP	Bridge Baron	d £39.00

EDUCATIONAL

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Broderbund	The Toyshop (20 working models)	d £50.00

INTERFACES

Xetec	Supergraphics Senior	r + cable £90.00
	Supergraphics Junior	r + cable £59.00

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United Kingdom - Prices include VAT, Add £2.00 for P&P
Europe - Prices as above. Price exclude VAT but no charge for P&P
Other countries - Prices exclude VAT but add 20% to above prices (air)
Software is not sold in a trial basis

Citizen 120-D Printer

There are printers and there are printers. They range from £50 4" thermal to professional £10,000 hi-res colour machines. One thing you won't be short of is choice. "But my computer's a Commodore" I hear you mutter and as we all know, Commodore computers need Commodore printers. Well that was the case once upon a time but the market is now afloat with gizmos that will let just about any printer work with your beloved C-64 etc. So it all comes down to what printer will best fit your needs and often of greater importance, your pocket. Being a professional writer I tend to get through printers like other people get through shoes. Each time I bought a new printer I encountered some new problems. I eventually decided to spend a little time cataloging these problems and came up with a check-list to go through each time I looked at a new printer.

1) PRICE
2) COMPATIBILITY (usually Epson)
3) FEATURES (Single sheet, Tractor, Roll etc.)
4) RIBBONS (Price and availability)
5) PRINT (Italics, Emphasize, NLQ, Head resolution, etc.)
6) NOISE (i.e. Quieter than Concorde)
7) SPEED (Faster than Concorde ?)
8) CONTROLS (Dip switches, mode control, ease of use, etc.)
9) COMMODORE INTERFACE (built in, extra, none)

When my last printer expired it was time to put my check-list into practice.

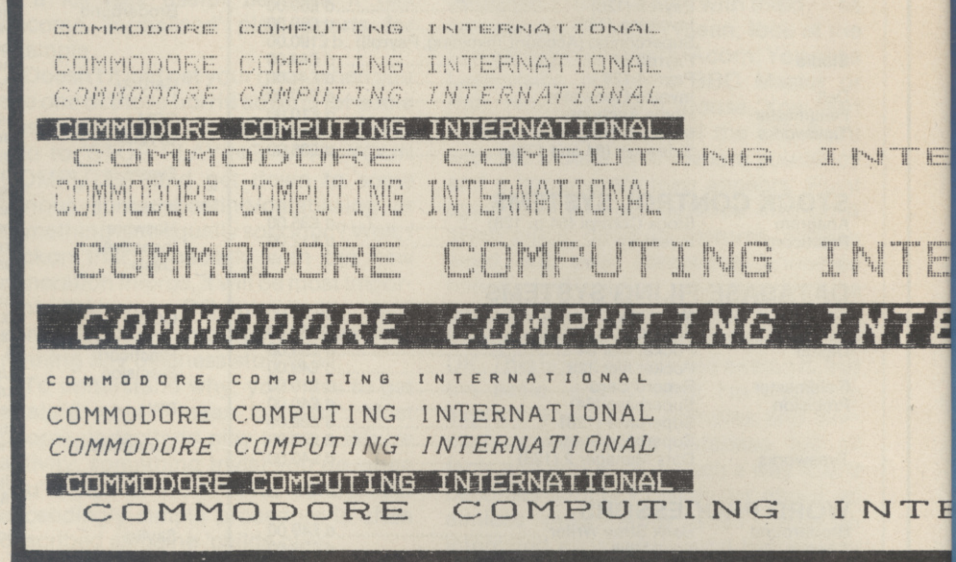
After several days of ploughing through computer magazines (CCI & Amiga User of course) and wandering around computer shops annoying the staff, I finally found what I was looking for . . . a Citizen 120-D (Commodore BIP). It is a quality printer and at a price that didn't paralyze my bank manager with fear. The 120-D makes use of a removable interface cartridge to enable it to work with a wide range of computers. The interface provided with mine was the Commodore BIP (Basic Interface Pack). Using one of these you can directly connect your computer to the printer using the standard Commodore serial port. It also interprets all the Commodore graphics and printer commands, making it compatible with any software you care to run. However, you may also like to make use of some of the 120-D's non-Commodore facilities. These can be accessed either from software or via a set of eight small switches (DIP) contained on the interface cartridge. There is a small sliding hatch, just behind the ribbon through which you can get at the switches without having to remove the cartridge. Switches 5-6 permit you to change the character set you are using. The options available are: Commodore standard, U.S.A., France, Germany, England, Denmark, Sweden and Italy. Additional languages can be catered for under software control. The remaining switches govern: Sheet feeder ON/OFF, Auto line feeds ON/OFF, Draft/NLQ, Page length 11"/12" and device number

4/5. There are a number of printing modes you can invoke by simply pressing the three switches on the front control panel in various sequences even when in Commodore mode. These are: NLQ, Italics, Emphasized and Reduced. It is therefore possible to print out a listing in near letter quality italics and yet still have Commodore graphics symbols. To list all of the facilities this printer has would take me a great deal of time and paper. The manuals provided reflect this in their size. One is the 120-D user manual which is a 185 A5 page spiral bound book and the other a 40 page Commodore BIP guide.

In order to give you some idea as to the range of features I have given a brief summary of some of them below:

- Expanded, compressed, emphasized, doublestrike, italics, superscripts and subscripts.
- Double width and double height characters.
- Correspondence quality print (NLQ), dual pitch and reverse (white on black) print.

Examples of print:



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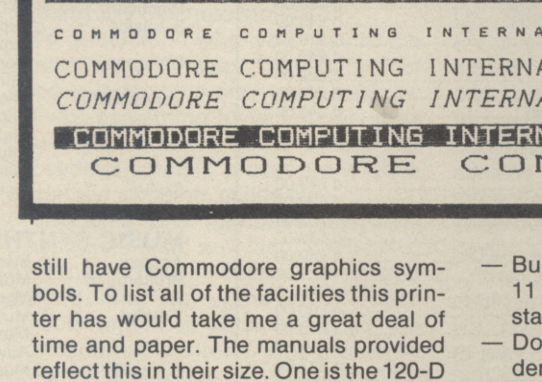
COMMODORE COMPUTING INTE

- Built-in international characters for 11 countries as well as Commodore standard.
- Dot-addressable graphics in six densities.
- Comprehensive printer self tests.
- Powerful hex dump feature to aid programme debugging.
- 120 characters per second.
- Removable tractor-feed mechanism.
- Easily accessible internal switches.

To add to this I must say that I have found my 120-D to be reliable and easy to operate. One unusual quirk I found was that if it is connected to a Commodore 128 and 1571 disk drive it must be switched on, otherwise the disk drive will not complete its initialization. So if you don't have time to wander around computer shops and badger their staff with technical sounding questions whilst ticking off your check-list then take a tip from me. I DID and I bought Citizen's 120-D . . . and I'm still smiling!

I.B.



Contact: Firstline Software,
206 Great North Rd,
Eaton Socon, St. Neots,
Cambs. PE19 3EF. Tel: 0480 213969.

Mini Office II

6 powerful home and business programs in just ONE package – at a price that simply can't be matched!
EXPENDITURE
*1000
1987
Use ↑ & ↓ to choose, then RETURN
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commodore
1541
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Mini Office II
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Popular Computing Weekly
'This package is incredible value'
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Prepare budgets or tables, total columns or rows with ease, copy formulae absolutely or relatively, view in either 40 or 80 column modes, recalculate automatically – and more!

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Enter data directly or load data from the spreadsheet, produce pie charts, display bar charts side by side or stacked, overlay line graphs – and more!

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Europa House, 68 Chester Road,
Hazel Grove, Stockport SK7 5NY

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Please send me Mini Office II for the Commodore 64/128

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☐ £19.95 5¼" disc

I enclose cheque made payable to Database Software, or debit my Access/Visa card:

Exp. date

Signed ....

Name ....

Address ....

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Mastertronic — Market Leaders

The headquarters of the organisation that sells more computer games in the U.K. — and probably round the world, too — than any other company is to be found in a seedy street in an unimpressive area near the East End of London. It is a somewhat shabby quarter — not far from where Jack the Ripper stalked, murdering prostitutes. It houses small printers and typesetters, rag trade sweatshops and minor engineering works — enterprises that don't trouble to try to impress by a swish facade at a fashionable address but allow themselves to be judged by what they deliver professionally. Perhaps it is not surprising to find Mastertronic in these unassuming circumstances. For what this computer games market leader does has the same practical, unhyped-up, down-to-earth style. It has simplicity — give good quality to a mass market at a very low price . . . but with perhaps, a little bit of streetwise flash thrown in for good measure.

Mastertronic is a company that has followed the advice of another legendary marketeer: "Pile it high and sell it cheap!" and it has done it in mass marketing computer games, since it was founded in November 1983, supremely well and with a universally acknowledged, highly deserved success that no other organisation has yet been able to match.

Mastertronic's offices belie the dingy street below. They are brightly lit, with pleasant stylish black wood and chrome furniture. They are dominated by a Mastertronic shop display unit full of brightly coloured games and a full size Space Invaders pin table. The offices are populated by what must be the strongest management team in entertainment software — the three founders — Frank Herman, Alan Sharam and Martin Alper and more recent recruits Geoff Heath ex MD, Melbourne House, and Ron Harris, ex MD Argus Software, aided by the PR talents of the favourite vamp of the computer press, Alison Beasley.

'Won't last 5 minutes'

It was Herman and Alper who had the idea back in 1983. Why, they asked, if it cost so little to duplicate cassettes was the retail price of games so high? Alper knew that 25p or so could cover the duplicating cost of a game because he owned a duplicating company. They persuaded a friend, Alan Sharam, who was professionally involved in software, to join them and get them some games and Mastertronic was born.

Not, however, to universal applause. It was probably wishful thinking that made the boss of one of the full price games houses claim 'They won't last 5 minutes.' Geoff Heath, then at Activision, swears it was not him 'I always admired them'. Although he did wonder, 'How can they stay in business on their costings?'

The answer was 'volume', sell enough to cover those costs and more . . . and more. How? By getting into outlets that no-one else had. They first created a network of 60 representatives. Most software houses sell through distributors like Centersoft or Microdealer who supply shops. Mastertronic gave their reps independence and let them break new ground and supply retail outlets direct. In effect every rep became a distributor. From day one, the £1.99 price bracket appealed to garages, chemists etc — outlets that had never stocked computer games before.

Mastertronic followed the classic merchandising practice of supplying display stands with their products already stacked. They still do and the stands are getting bigger. Tesco, Carrefour, Savacentre — the multiples and supermarkets fell before the Mastertronic onslaught — and the biggest prize of all — Woolworths — let Mastertronic exclusively stock its stores with budget games. Previously, games had been sold 'under glass'. Mastertronic's stand let the consumer take it out and buy.

As Heath points out 'People in supermarkets go round with a trolley. £1.99 doesn't add much to the grocery bill . . . Mastertronic created a new market for people who wouldn't venture into a specialised computer shop but would go into a supermarket.' They also prettied up the packaging with colourful exciting pictures, not screen shots, which did not attract the impulse buyers.

That level of mass marketing is far more extensive than most games houses could have managed. It requires imagination, drive and a constant flow of good value products. Mastertronic released 80 titles in 1986 and plans for 1987 are to exceed that number. Cheap? Yes. But poor quality? 'No!' they say, 'If anyone writes in and says they're sending us a 'budget game', it goes straight in the trash can.'

Mastertronic claims it pays programmers the same rewards as a full price company. And that it can afford to because it sells so many copies of each game.

Ron Harris is now charged with keeping the flow of games coming. He has a network of programmers worldwide. Alper denies the need for expensive Vax-type mainframes for the creation of games but says the day of the lone programmer in the attic is gone. 'The image of the solo programmer is being superseded. You need a graphic artist and a programmer and someone who is running the team like a film producer...' Now living near Los Angeles, in California, he says with feeling, 'European programming has a raw energy!'

Worldwide

So has Mastertronic. Not content with the UK it has spread to 'practically every country in the world.' A slight Mastertronic marketing style overstatement but not far from the truth. All the western European countries now have Mastertronic companies as do most other European countries now have Master-computer games-playing nations. They all receive the same Mastertronic product — the generally easy play, universally understandable, arcade style game. Though they have the autonomy to refuse games if they choose. 'Different countries have different ways of doing things... but they tend to take everything...'

COMMODORE
64K/128K
COLONY
BULLDOG
SOFTWARE

Martin Alper's emigration to California is not accidental nor in spite of the office jokes was it merely for his deep suntan. He runs what is fast developing as a big Mastertronic empire in its own right — the USA.

There, Mastertronic is taking that super selling country and showing it how to sell computer games. It has got Mastertronic products into outlets like Toys R Us who had never sold software before. It sold a million dollars worth in the first year of US business. In 18 months, Mastertronics is 100% ahead of its target. Sales have tripled since June 1986.

Alper sees 1987, especially the second half as 'a year of unbelievable boom'. It will certainly feature cheap PC software. 'Everything entertainment... not utilities...' Mastertronic's products in the US, all disks, sell for $9.95. Compared to full price of $25.00 or so that is very cheap. But they still pay well for programming 'We've spent $¾ million on programming... We've bought 10 Amigas too... We're developing a lot of Amiga products but Amigas should be £199.00 plus monitor. We're flexible... Whatever the hardware is we'll be there'. He agrees that other companies like Electronic Arts and Epyx have budget ranges, 'but they're recycled products — ours are new.'

'Plenty in the Pot'

Mastertronic appears unworried by budget challengers in the UK like BT's Firebird or Codemaster — run by the Darling family who once worked for Mastertronic. 'They can't give the service we do. It's easy to say you'll release a lot of titles but it's not easy to release eight titles a month — month in, month out... Which is what we do... But anyway there's plenty in the pot for everybody...'

There is an air of cheerful confidence about Mastertronic. There should be. They claim to have shifted between five and six million boxes of games last year. The company has sold its shares to the public, making its founders into rich men. It has just joined the full price leaders by buying out Melbourne House. It has just created a company in the US to put its games into the arcades. But the key to its success is that Mastertronic seems to be able to produce an unending stream of chart topping games that even its competitors admit at £1.99 or even £2.99 are amazing value. Mastertronic is at least in the UK, an undisputed leader of its market. Will they let it go to their heads and move out of their none-too-large offices to grander surroundings? 'We don't build empires... we work hard,' they grin at each other 'but that Space Invaders might have to go!'

Mastertronic's rivals must wish that all *they* had to worry about was finding room for a Space Invaders pin table — or that the Mastertronic team would spend more time playing it and less time piling games high and selling them to an eager public at £1.99 with such resounding and continuing success.

A.M.

Plugging into the Options

Mastertronic's record of success has been achieved in selling its £1.99 and £2.99 budget ranges in the U.K. and equally low priced games software in other countries. Now it is moving out of that simple formula into other areas of the entertainment computer world. Within just a few months, it has carried out three deals in allied but different fields.

It has acquired Bulldog — a distribution company. It has bought out Melbourne House — one of the top names in full price games software and computer books. It has emerged as the owner of Arcadia — a company supplying games and hardware to the booming world of the coin-op arcade.

The acquisition of Bulldog enables Mastertronic to back up its already established network of representatives with an organisation that can profit from and plug into its traditional distribution methods and channels. Melbourne House, founded in Australia, shot to prominence with games like The Hobbit and Lord of the Rings and a string of hits. It was one of the top five games houses in 1985 and early '86. Then it seemed to lose its way — and its MD, when Geoff Heath left for Mastertronic. "The international computer games giant" as Mastertronic calls itself in its press release, struck just at the right time — before failing star Melbourne House lost all its radiance yet was already in a weakened financial position.

The latest development — Arcadia — which Mastertronic claims is a "6 million dollar commitment" completes the whole range of computer games points into which it has entry — budget, full price, arcade. It can even, as Geoff Heath points out, have the pleasant task of negotiating with itself for licences from games created for the coin-op arcades into the home computer markets. No other games company in the world looks to have plugged into the whole range of lucrative computer games options as Mastertronic has done.

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Polynomial

by Insight Software Systems

Maths are just a total mystery to many people. At school, you can frequently hear it said with almost a kind of pride that these strange symbols mean nothing to someone. Feeling the same, old people are often ashamed but excuse themselves by blaming 'The New Maths', which they seem to think is so radically different from 'the old maths' — whatever that might be — that the little they reluctantly absorbed at school is now justifiably disappearing into the limbo of forgotten things. One of the great problems with mathematics is probably the way it is taught. Maths teachers apparently understand the subject themselves but find great difficulty in communicating it to kids who do not see what these boring and mysterious mixtures of numbers, and geometrics have to do with anything outside their school life. In the recent movie, "Peggy Sue Got Married", a woman who time travels back to her 18 year old self has great pleasure and is cheered by her classmates for telling the algebra teacher 'I won't be needing this in my future life!' She has just failed to put anything but her name on her test paper. If she'd had the use of "Polynomial" it might have been a different story.

The word 'Polynomial' literally means "many numbered", and so this program has been written with the expressed purpose of enabling people of all ages and all backgrounds to play with numbers in their own time and at their own pace. It can be used as means to an end or just to experiment with. The intention is to try and make numbers and the subject of mathematics more appealing, even fun. However, Polynomial is not just a toy, it can just as easily be used as an analytical tool like any other, suited even to the needs of the professionals in their work.

LOADING THE PROGRAM FROM A DISC DRIVE

Insert the disk into the disk drive and type:

LOAD "Polynomial", 8, 1.

Press return

Immediately the screen will blank, which indicates the program is being loaded. When loading is complete the program will run automatically. This is indicated by a change in screen colour followed by the *Insight Software* logo.

LOADING THE PROGRAM FROM A CASSETTE

Insert the cassette into the cassette player and type:

LOAD "Polynomial", 1, 1.

Press Return

Immediately the screen will blank, which indicates the program is being loaded. When loading is complete the program will run automatically. This is indicated by a change in screen colour followed by the *Insight Software* logo.

Polynomial is a self contained, menu driven mathematics program to allow you to play with numbers, draw graphs and investigate mathematical relationships. Polynomial is not one of those Question and Answer programs which drag you through a thousand monotonous questions, it allows you to put the questions and helps you find the answers.

The program consists of four independent modules, three of which are powerful dedicated number crunching routines. The fourth is a general purpose hi-res graph plotting routine. Through its modules Polynomial is capable of solving non-linear polynomials, simultaneous equations and can even help you solve those awkward experiments by finding polynomials to fit experimental data. All three are backed up by a hi-res, hi-accuracy graph plotting routine. All sorts of problems can be analysed and solved. Students of 'O', 'A' or degree level could find Polynomial of particular value.

I would say particularly 'O' level because at that stage many people who fear and dislike maths are still being forced into taking an exam for which they are often very badly prepared. This may not be the school's fault just the general atmosphere that surrounds the subject . . . and the maths mystique.

For anyone taking 'A' level, it may not have the same kind of use. However, it certainly has other helpful abilities for them or even degree students such as its very smart graphical representation of equations which can be a very short cut indeed compared to conventional ways of achieving the same result.

Insight, the creators of this computer aided analysis program, have done an excellent job in turning out a package that makes a lot of rather complicated stuff very simple for enthusiastic, or even reluctant, mathematicians. **A.M.**

Price: £14.95 (c), £19.95 (d)
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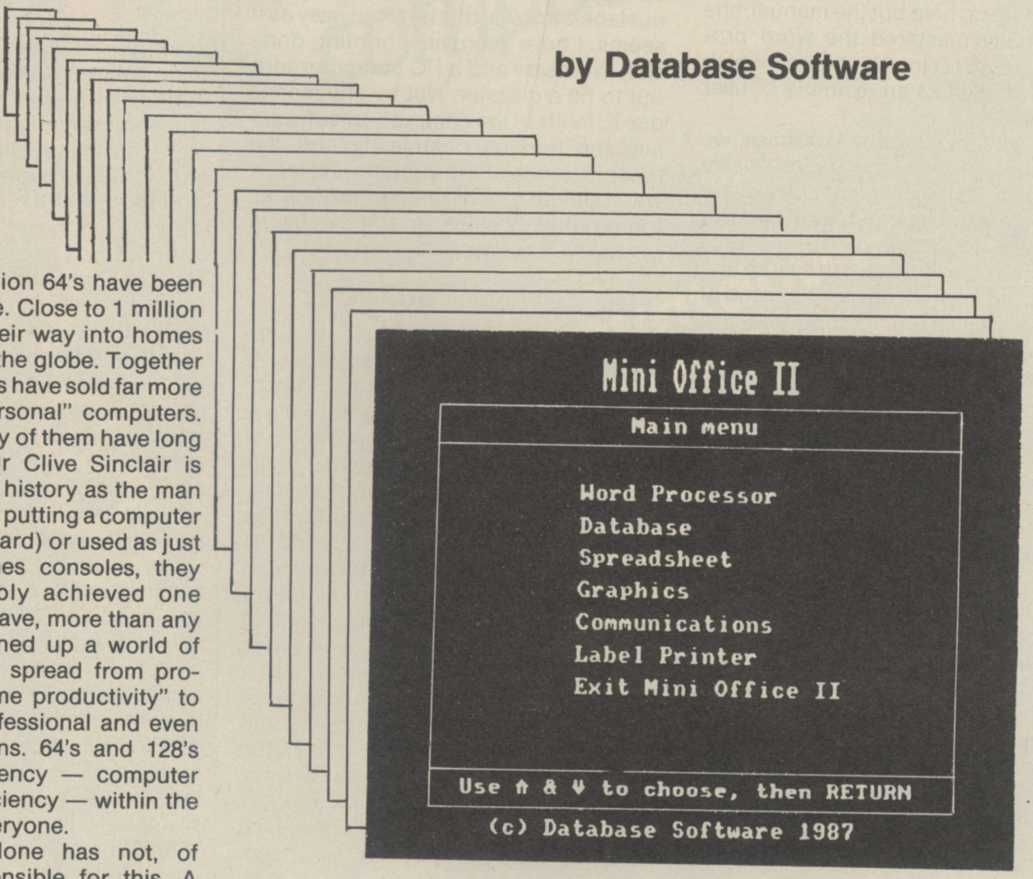
Mini Office II

by Database Software



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More than 6 million 64's have been sold worldwide. Close to 1 million 128's have found their way into homes and offices around the globe. Together those two computers have sold far more than any other "personal" computers. While no doubt many of them have long been discarded (Sir Clive Sinclair is likely to go down in history as the man most responsible for putting a computer in everyone's cupboard) or used as just underpowered games consoles, they have unquestionably achieved one major effect. They have, more than any other machine opened up a world of usefulness that has spread from programming and "home productivity" to full scale office professional and even scientific applications. 64's and 128's have brought efficiency — computer speed and style efficiency — within the reach of virtually everyone.

The hardware alone has not, of course, been responsible for this. A huge amount is owed to highly creative programmers who have developed packages of software that has made it happen. Database Software was one of these organisations and in 1984 brought out Mini Office 1. It was a nice little package. It had wordprocessing, database and other useful functions. It was popular. Lots of people bought it. It even got awards. You would not have mistaken it for a professional level package on an IBM or Commodore PC but it was good value for its price.

For some time we have known that Database Software was working on a new Mini Office — mark 11. We knew because Richard Franklin, longtime contributor to CCI, was taking a major role in the project. It seemed to take an awful long time and he became less and less available to provide some of the expert contributions that CCI readers obviously admired. It certainly seemed that whatever was being prepared as Mini Office 11 was going to get a thorough development. Finally Mini Office arrived on CCI's doorstep.

We wondered whether we would be disappointed. It certainly looks very different from Mark 1. It is packaged like a professional piece of software. It has a fully protective disk-size case and an 87 page ring binder style instruction manual which is excellently set out and printed. But, of course, packaging isn't everything, it is what comes up on your screen that counts and this Mini Office clearly has quality written all over it. It may even be, as someone at CCI said, the perfect package for anyone using the 64 as a proper computer.

Modules

Mini Office 11 is an integrated package i.e. it contains a variety of different function modules that can, in general, be used together. The modules are: Word Processor, Database, Spreadsheet, Graphics, Communications and Label Printer. Also included are utilities to convert files produced by the original Mini Office 1 to a format acceptable to this much more sophisticated Mini Office 11. A very useful aid to those who already have Mark 1 — and a good argument, as the canny Database Software is no doubt aware, for buying Mark 11 if you already have Mini Office 1 — which also shows how many satisfied customers they believe there were!

The largest part of most office work seems to concern word-processing. Something over 50% of PC's are used for nothing else! So Mini Office 11 probably lives or dies by its word processing module. It is our opinion that it passed its tests in our office with flying colours. It runs like the rest of the modules through menus and operates in Mini Office or lets you save in straight Ascii format. It has all the usual functions like edit text, print text, save load and merge etc. It even has a useful search and replace choice that lets you make a repeated correction without having to hunt for each separate word to correct and you can use it for finding when a word occurs, which is very helpful in creating an index. Once you are in Edit Mode, you can treat your computer as an electronic typewriter — any letter you press will appear at the cursor which then moves on to the column to the right — or, if necessary onto a new line — ready for the next letter. The whole thing is virtually no more difficult to use than a typewriter. The majority of the features, such as changing screen colour or moving the cursor back to the start of the previous word with no more than a single or double keystroke.

As a test of a more genuine beginner trying out a word processor for the first time, we gave it to a member of CCI who have never used a word processor

Mini Office II

...CONTINUED

before. With no help but the manual, she had virtually mastered the word processing module in 1½ hours, which speaks for itself as an example of user friendliness.

When we looked at the Database, we found that it was a comprehensive example of its kind. It provides every function that the user of a 64 is likely to need even to create and run quite complex databases. You can search and mark records, sort data, calculate and of course, print it all out. A highly effective module.

Not everyone needs to use spreadsheets, although once you have used one, if you have any kind of business prediction to accomplish which contains a "What if...", then you will become enraptured at the ease with which highly complicated calculations can be carried out in seconds — and then changed to incorporate variables with just a keystroke or two. Mini Office's Spreadsheet will almost certainly be more than adequate for most users of a 64.

Mini Office 11 is an integrated package which has the advantage of letting you fit together different parts of the package. But as an integrated package it can obviously devote less attention to individual parts than purely dedicated packages can. This is perhaps most noticeable in the graphics module that although giving a number of useful functions and applications, cannot equal some of the special — and it has to be admitted often more expensive-graphics packages we are seeing these days for the 64. But you can create bar and pi charts or line graphs and take data from spreadsheets, or dump to your printer.

There are two communications programs, which enable you to link your computer to virtually any other capable of communications. You do not yourself have to do much — or know anything! —Mini Office will organise the correct protocol. The package can be used either with a serial modem connected to a RS 232 interface plugged into the user port or through a Compunet modem. We found no difficulty with either of these.

The final module is the Label Printer. As anyone who has ever tried to print out labels knows, this is not so easy as it seems. I have seen label printing done with Wordstar and a PC computer turn out to be a disaster. Not by any means due to faults in the computer or software just the general complexity and the incompetence of the operator. As far as we could see, Mini Office makes it as foolproof as possible and fairly simple to carry out successfully.

The Perfect Package?

Mini Office is not a two or three thousand pound dedicated processor. It is not a Lotus or a dBase. It is not a whizz bang AMIGA Dpaint. It does not set out to be any of these. It provides a remarkable range of integrated functions that are easy to use and satisfactorily efficient. Is it perfect? Well, nothing created by human hand, or mind, is likely to be perfect but it is, at its price, as good a package as anyone could want to use on a 64 and without question outstanding value for money. As one member of CCI's staff commented "A couple of years ago, a package of integrated software of this quality and range would have cost you about £100 and wouldn't have been so easy to use." If you want to use your 64 as a highly efficient office machine, Mini Office certainly gives you the power you need.

A.M.

Price: cassette £16.95; disk 19.95.
Contact: Database Software, 68 Chester Road, Hazelgrove, Stockport SV7 5NY.
Tel: 061 456 8835.

CCI believes Mini Office is an important development for the 64. Many people will wish to know how to make the best use of Mini Office so we have asked Richard Franklin, one of its creators, to describe, in a series of articles to appear in forthcoming CCIs how the individual function modules of Mini Office can be used to their greatest advantage. The first article will appear in the next issue of CCI.

WIN A MINI OFFICE PACKAGE

Reading this review will have whetted your appetite to own one of these amazing packages. CCI have TEN copies of the package to give away to the winners of this special competition. Simply answer the following questions:

1. What was the predecessor to Mini Office II?
2. How many modules does Mini Office II have and what are they?
3. Who is generally assumed to have invented the typewriter?
4. How many pages does the Mini Office II manual have?
5. Name two products which have revolutionised the modern office.

Send your answers on a postcard to: Mini Office Competition, CCI, 40 Bowling Green Lane, London EC1R 0NE.
Closing Date: June 15th

Turbo Plus

by Anco

When you first get a computer everything seems wonderful — that's if you don't have problems with loading and other software niggles. But after a while there are many areas that begin to annoy. One of them is precisely loading that sometimes seems to take an eternity. On the 64, there is a wealth of turbo loading add-ons — either devices like The Final Cartridge or The Expert Cartridge or Turbo loading programs of the kind that CCI has published. The Plus/4 — C16 needs, Anco rides to the rescue this time with 'Turbo Plus', a cartridge that will find its way quickly into the hearts of the deprived Plus/4 community — and also delight the C16 people too of course.

While the Turbo Plus will obviously please by speeding up loading by a factor of up to 10, probably the most exciting facility it offers is that it can let you use your built-in Plus/4 database and word processor with a cassette player. As many Plus/4 owners have paid less than £100 for their computer, it has often seemed a very large additional cost to pay substantially more than that for a disk drive to go with it. Turbo Plus lets you use your old datasette. Quite a saving!

And talking of saving, it has the other useful factor that the whole (60K maximum) memory of the computer can be saved.

It also provides extra Basic commands like 'change' 'demerge' 'find' 'kill' and a number of others. It has too a Scroller so that Basic listings can be scrolled backwards or forwards using the cursor keys (even with a window) so that you can get rid of the annoying 'List from... to...'

The module is simply plugged into the MEMORY EXPANSION socket at the back of the computer and away you go. Created for Anco by the outstanding West German Kingsoft company, Turbo Plus even corrects the software bug in the Plus/4 data filing system (version VO52084) that appears in data files with more than 255 entries. A very helpful development.

For anyone using or wanting to use a Plus/4 or C16 for real computing, the Turbo Plus has got to be a highly useful device opening up a whole range of possibilities. At the price it's a bargain.

A.M.

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Miditrack Performer

. . . a Real-time 8-track MIDI Sequencer. Ian Waugh plugs it in and checks it out.

Electromusic Research — (EMR) produced one of the first MIDI programs for the BBC computer and have gone on to produce programs for most home computers including the Commodore. Their Commodore Performer is the first in their range of Commodore programs.

First let's look at EMR's MIDI Interface itself, the box of tricks which bridges the gap between computer and synthesiser. A cartridge connector plugs into the Commodore's cartridge port and the interface sits by the side or to the rear. It has four sockets: a MIDI In, two MIDI Outs and a Clock start/stop. Two LEDs on top of the box show when data is being transmitted or received so you know if signals are misbehaving themselves. Good!

The Performer is a real-time sequencer which means it records music as you play it. You can record on up to eight tracks which, on playback, can be assigned to different MIDI channels — and hence different instruments or sounds — to produce full eight-track polyphony.

There is only one screen display. It is divided into three sections and the top section lists the track options in table form. These are as follows: Play (mutes tracks on playback so you can listen to individual tracks), Channel (a MIDI channel number from 1 to 16), Pitch (transposes a track over any range), Loop (makes tracks repeat), Control (filters out unwanted memory-grabbing performance controls such as velocity and pressure sensitivity) and Mode (to select Poly or Mono MIDI modes). The program works well with Casio's CZ synths (which are multi-timbral and can play more than one sound at once — ideal for MIDI work, in fact) although you have to punch a couple of extra buttons during the process.

The second section contains the commands which help control the system. You can select an internal or external clock to control the sequencer from a drum machine. You can stipulate the number of beats count-in before recording starts, alter the tempo and switch the metronome on or off. The metronome sounds a note on the connected instrument which creates havoc if you're playing a synth in mono mode. You can switch the metronome off, of course, but, a SID chip metronome would have been nice.

You can set a time signature and although no notation is used it can help you find your place in a recording and it helps with the count in. You can set the bar from which playback will commence and you can stipulate how many times the piece will repeat on playback. A Text option lets you enter a few words about the current piece. This is very useful — providing you use it — to store performance information.

There is an auto note correct feature — technically known as quantisation — which will divide the bar into a number of sub-beats, and place all the notes you play on the nearest beat. Selecting 24, for example, gives a resolution of quarter notes (crotchets) so everything you play will fall on one of the four beats of the bar. This is extremely useful if your timing is not perfect — and this is never more obvious than when you listen to a recording of yourself!

The Arrange function is also very useful, particularly if you are recording pieces with lots of repetition. It lets you select a sequence of tracks to playback one after the other. If track 8 held an often-used pattern you could sets tracks 1,2 and 8 to play followed by 3 and 4 then 5, 6 and 8. Neat!

Disc handling includes Loading, Saving and Deleting files along with a catalogue command. A format facility would have been handy, too, but its omission is hardly drastic.

Final features in this section are the Flash command which sets the border to flash different colours in time to the music — switch off to avoid premature senile dementia — and a Zap command to reset the system completely. There's also provision to access EMR's Editor package when it is released.

The program displays the amount of memory remaining after each operation and you begin with 35360 bytes free. The MIDI data is compressed to squeeze more music into the available memory, which other software producers are just beginning to consider.

An excellent demo of Bach's concerto in D minor comes with the program and you can experiment with this until you get the hang of the system — which shouldn't take long.

Recording is simply a matter of pressing R then Y (to confirm) and off you go. There is a punch-in feature, essential for those pieces which you record perfectly — apart from the last bar (seems to happen on most of my stuff). It makes re-recording relatively painless although there is no punch-out.

You can also merge tracks by connecting a MIDI Out socket to the MIDI In. You should be able to do this from software but it works.

EMR's Performer costs £49.95 and their MIDI Interface is £79.90 but if you buy them both together, EMR have a special package deal so the two will only cost you £99 which can't be bad.

As MIDI software has developed, many companies have sought to include more and more frills with each new release. If you want to play a sequence backwards and if you need to access the MIDI exclusive codes in your synthesiser then you need to look beyond the Performer at other programs. The Performer is, however, rather a good package and it has all the ingredients you would expect in a real-time sequencer. It, too, has its frills in the Arranger, Loop and Merge facilities and the package deal is certainly attractively priced. What's more, it is also quite easy to operate and you can plug in and go without wading through an encyclopaedic volume of instructions.

EMR are continually developing new software and already have real-time, step-time, editor, notator, DX7 and CZ-101 voice editors and graphic MIDI programs for various computers. Most, if not all, of these should soon be available for the Commodore so you can add more facilities to your system when required.

If you're hovering on the brink of the wonderful world of MIDI then take a look at EMR's Perfomer. If you want more info, send for their booklet, *MIDI, Micros & Music* at £1.50 (plus 25p P&P). They'll even refund this if you buy a system.

I.W.

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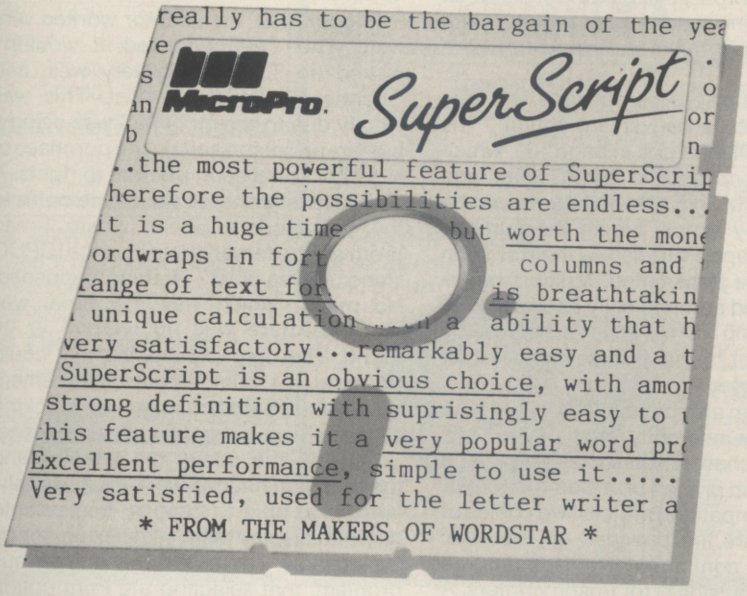

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Teletext Adaptor

by Microtext

Teletext is a system for transmitting information over the airwaves and displaying it on a suitably adapted receiver. Those of you who have teletext equipped televisions will know just how much information is transmitted over the Ceefax and Oracle networks. This data has somehow to be transmitted as part of the normal television signal, but must not intrude so much as to make it noticeable on the TV picture.

A television picture consists of 625 lines of colour and brightness information, and 50 separate 'frames' are transmitted every second. Most television sets are adjusted, however, so that the first 22 lines of the picture are not displayed. It is possible to use up to 16 of these lines purely for teletext information. In fact, most teletext system only use 6 or 7 of these lines.

It is possible to see these teletext lines by adjusting the vertical hold on your set. The teletext information will then be seen as a series of dancing dots at the top of the picture. Teletext information is sent digitally, where a '1' is represented by white, and '0' by black.

Because each line of dots represents one line on the teletext page, a whole page of 24 lines will take 4 frames to transmit. In the UK, teletext is transmitted at the rate of 12 pages per second. For those who are curious, this represents a data transmission rate of 6.9375 Megabits/second! Compare that with the 1.2 Kilobits per second of the 1541 disk drive!

Teletext is very similar in format to Viewdata systems (such as Prestel), and lends itself very easily to use on the home micro. Unlike Viewdata, however, teletext is an information service only, and is not interactive, ie, you can't talk back to it. Microtext have produced teletext adaptors for several home micros, including the Commodore.

The teletext adaptor is a small box (about 3in by 4.5in by 1.5in) that plugs into the User Port at the back of the 64 or 128. The adaptor uses a domestic video recorder to generate the TV signal, and a lead is provided to fit most recorders. In fact, if the lead supplied does not fit your recorder, a return of post service is offered to provide a suitable replacement.

If, like me, you have a 128D, the mains connector will prevent the adaptor from fitting into the user port. All is not lost, since a free extension cable is available on demand. So plus in and switch on. If you have a 128, you will need to enter 64 mode, since a 128 version of the software is not currently available. The software is supplied on tape and consists of a BASIC program with supplementary machine code routines. Microtext claim that this is to enable the user to modify the software for his own purposes, and details of all the machine code entry points, with example programs are provided in the manual.

Run the first program on tape, and tune the video to a convenient station. The adaptor will then pull in page 100, which is the 'front page'to the Ceefax and Oracle networks. New pages can be selected by simply typing the number, and the adaptor will display them as soon as they are transmitted. Multiple pages are updated automatically as they arrive, but pressing 'H' will enter a hold mode and prevent further update until another key is pressed.

Pages can also be saved to disk or tape (the system inherently knows if you have a disk attached, and assumes you will be using it) and printed on a Commodore or Epson-compatible printer. Two copies of the software are provided on the tape; side A is configured for Commodore printers, and side B for Epson printers. A serial bus interface must be used to the Epson, since the user plot is used to drive the adaptor.

Pressing 'R' will reveal any hidden details on a page (answers to a quiz, for example), 'N' will pull in the next page, and 'R' pulls in the previous page. This saves a bit of typing and adds convenience when viewing consecutive pages. It is also another feature that is not found on teletext televisions. Changing channels is simply a matter of selecting a new channel on the video. The adaptor will then attempt to pull in the currently selected page from the new service.

All this is very well, but I don't actually possess a video recorder. For me and thousands like me, Microtext have produced a tuner to complement the adaptor. This comes in a box the same size as the main adaptor, and has three connectors on it. These are for power, TV aerial, and output to the adaptor. A new version of the software is provided for use with the tuner, and includes the 'C' command for changing channel.

When RUN for the first time, the message 'SEARCHING' is displayed, as the tuner seeks out all the strong TV stations. When a new statio is found, you are asked to assign it a channel number for use with the 'C' command. If the software is then saved to tape or disk, the stations. When a new station is found, you are asked to assign it a channel number for use with the 'C' command. If the software is then saved to tape or disk, the stations will be preprogrammed whenever the adaptor is rebooted. In all other aspects, the adaptor behaves as if it had the video attached.

In operation, the adaptor worked very well, When it first arrived, it wouldn't picked up TVS Oracle very well, and Channel 4 just didn't exist. This was wholly due to the fact that I was using a beaten-up set top aerial. The purchase of a decent aerial soon put that to rights. A few days later, I took the whole outfit to the Commodore Show, where I had promised to demonstrate it on the ICPUG stand. Guess what? Nothing happened. No matter which way the aerial was pointed, there was no teletext to be found. The only explanation that could be found was that the steel reinforcement in the fabric of the building was blocking out the signal rather like a faraday cage.

Outside the show, the adaptor and tuner combination worked flawlessly, and I was able to capture frames onto disk and display them in the exhibition as a slideshow. There was only one serious problem, that selecting the Print option caused the software to crash when used with the tuner option. Typing RUN got me straight back into teletext, but no printouts with the tuner based software. When I spoke to Microtext about this, they said they were unaware of the problem, but would sort the problem out. A copy of the updated software arrived shortly after.

Overall, then, a small problem with the software rewrite, which was quickly sorted out, but the hardware itself worked flawlessly. It currently only works in 64 mode, but the software is documented, and it shouldn't be very much hassle to convert to 128 mode (I have a mind to convert it to run from the 128 internal ROM slot). An extension cable and disk software enables the unit to work with the 128D. In theory, an adaptation of this cable and some hacking will allow the unit to run on an Amiga, which would allow, say, true subtitles from page 888 to be substituted onto genlocked video from the tuner.

In conclusion, if you don't have a teletext TV, buy this adaptor. If you do, then think carefully, but this is a very impressive piece of kit. Naturally, the usual disclaimers apply.

TWA

Price: £69.95 (adaptor), £114.95 (adaptor and tuner).

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With the Microtext Adaptor a page like a recipe or a software review may be saved to disc or cassette for later reloading, or you can print a page like the TV programme times on any printer which uses the serial bus. All the functions like Hold, Back one page, or Print are simply selected by pressing one key, it's very easy to use but powerful too!

The manual has examples and shows how to access and use Teletext from your own programs, the ability to tap the massive database available on Teletext and select and use information like football results, exchange rates or weather conditions, provides possibilities limited only by your imagination.

The Adaptor is cased and fits neatly on the User port, it comes with software on cassette with instructions for copying to disc. A lead which could be extended to another room, connects to the seldom used 'VIDEO OUT' socket on your video recorder so using your video as the Tuner for the system. This ingenious concept means an extra arial is not required, your family can still use the Main TV as before and channel selection for Teletext is done on the video which reduces the complexity of the adaptor so saving you money!

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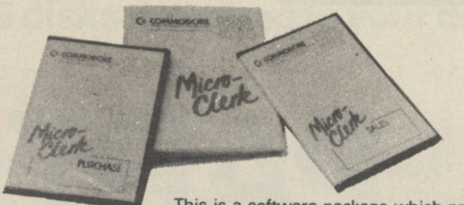

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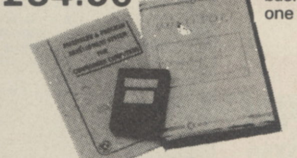

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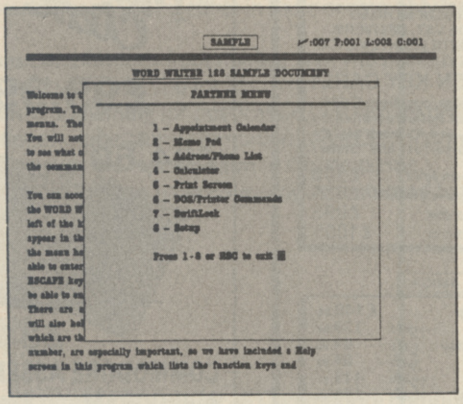

```
                              SAMPLE        ✓:007 P:001 L:002 C:001

                 WORD WRITER 128 SAMPLE DOCUMENT
Welcome to t                 PARTNER MENU
program. Th
menus. The            1 - Appointment Calendar
You will not          2 - Memo Pad
to see what c         3 - Address/Phone List
the comman            4 - Calculator
                      5 - Print Screen
You can acce          6 - DOS/Printer Commands
the WORD W            7 - SwiftLock
left of the k         8 - Setup
appear in th
the menu he           Press 1-8 or ESC to exit █
able to enter
ESCAPE key
be able to en
There are a
will also hel
which are th
number, are especially important, so we have included a Help
screen in this program which lists the function keys and
```

A day in the life of a C128 user can be hectic indeed. So hectic that you may find yourself needing access to many different applications all at the same time.

The very first consideration you made for buying a computer was perhaps the one that "computers can do all your office chores quickly, financial forecasts, planning and accounts. Well that might be the case, but how can you perform nearly all these tasks at the same time without changing from one software program to another? Usually this involves saving the file you 're working on and changing the program and re-loading the next.

This is where PARTNER 128 comes to your aid. A cartridge based product with eight convenient memory resident desk top "accessories" that operate "concurrently" with other C128 software programs. You can call upon these accessories at any time.

PARTNER 128 suspends the existing program currently in memory when you use any of its accessories. When you have finished using it you can return to your original program exactly at the point you left off. This is an excellent idea. How many times have you been half way through a job when something happens and you have to write a quick letter, make an appointment for a meeting or need to look up someone's address and phone number? PARTNER allows you access to all and more besides just by the push of a button.

The package comes well presented and well documented. It consists of a cartridge that plugs into the cartridge port with a short cable plugging into joyport 2. A note worth mentioning here are some of PARTNER's limitations. If your software requires the use of joyport 2 then a Y adaptor is necessary. PARTNER will only work in 80 column mode. Programs such as Visawrite or programs using hi-res graphics also won't work concurrently with PARTNER. Here however are all the accessories you can get.

Swiftload

If you have the slow 1541 drive Swiftload allows the programs to load as fast as a 1571 drive.

Appointment Calendar

This contains a calendar containing all the days up to December 31st 1999. On each day you can enter details of all important functions, meetings and things worth noting. Then create a file and save to disk.

Memo Pad

Quick notes can be jotted down just as if you were using a note pad. With this option you could also easily produce a finished letter by turning the typewriter function on. Again all documents or notes can be saved on file.

Address/Phone list and Auto-Dialler

Entering all your important names and addresses into a file and saving them along with their respective phone numbers is all very well. But PARTNER allows you to search, out the address as a label. Indeed you can print out all the addresses on file in one exercise if the need arises.

Calculator

Just the same as having any desk top calculator but with the added advantage of a paper printout should you need it.

Print Screen

This utility allows the dumping of a screen from a program that you are currently working on. A very handy tool at times!

DOS/Printer Commands

Allows you to access Commodore disk drive commands and to enter printer codes. Use this feature to format a disk, erase a data file, or enter printer codes for a special typeface.

Swiftlock

No one can ever tamper with your unattended program again. Enter a key sequence before you walk away, and the keyboard will be locked until you re-enter your personal code!

These utilities are, I'm sure you will agree, a tremendous boon to a busy user. The ability to switch between software programs and all the many useful accessories with such ease makes this for me the utility of the year 1987. A very good bargain at around £59.00 (UK price). Well done Timeworks.

B.C.

Contact: Timeworks Inc., 444 Lake Cook Rd., Deerfield, Il 60015, USA. Tel: (312) 948 9200.

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Andy Moss' famed expertise in solving mind stretching adventure games is legendary. He regularly comments in C.C.I. on all the many and increasingly popular aspects of adventure.

MIND FOREVER VENTURING...

Having heard the news that Melbourne House has been bought by Mastertronic, a few thoughts sprung to mind. The first thought was no, surely not, a little budget house like Mastertronic paying a six figure sum to acquire a major company like Melbourne House? It can't be. But of course Mastertronic is not a little software house, it is an awfully big house, more like a mansion really. Big over this side of the pond and huge over in America, and all this profit from selling tapes at a meagre £1.99! They have also been responsible for upgrading the quality of the budget market to such an extent that now there are some cheap adventures available, which quite frankly put their more costly cousins in a proverbial paper hat.

This brings us quite nicely to why possibly, Melbourne House had to sell out. I remember the good times, when "The Hobbit", was achieving critical acclaim from all quarters, and it was heralded as a leap forward in software achievement, which it most certainly was. Fred Milgrom, Melbourne's Boss, was holding press conferences and lunches stating that this Software Publisher was going places. We all nodded in agreement, and with the release of "Sherlock", "Starion", "Hampstead" and "Lord Of The Rings", it certainly looked as though his prophecy would be fulfilled. What went wrong? The answer is that the quality of their releases nosedived (apart from the excellent Lever/Jones adventures), and they become a victim of their own success. If you are borne on a sea of innovative quality then you have constantly to maintain that direction, otherwise you drown.

Mastertronic have now come of age, and I look forward to their new releases with great relish. They have pointed out that Melbourne House will continue to release material under its own label and still produce software from the Australian team who created "The Hobbit", let's all hope that there will be a quick return to former glories.

This month we have something rather special to savour — a new Infocom release to review named Hollwood Hijinx, if you remember, exclusively announced in this column back in February, Necris Dome from Codemasters, a new SSI role player calld Phantasie II, Explorer from Electric Dreams, and The Growing Pains of Adrian Mole from Mosaic.

Adventure News

New Melbourne Mystery

In the wake of all this take over news I am happy to report that things may be looking up for Melbourne House as far as good software is concerned with the impending release of The Mystery of Arkham Manor, a new detective style adventure that promises to be something special. In the game you play the part of an investigative journalist looking into the disappearance of a Colonel Fortescue, ex member of the War Cabinet and respected Arkham resident. As you explore the village and question its inhabitants the adventure unfolds using text, animated graphics, icons and pull down menus. Where the game differs from the norm however is that as a reporter you actually have to file stories as you go, and take pictures where appropriate. This is then printed on a daily basis in the newspaper, which you can see, and edit, or take a hard copy print from. Sounds great, and as soon as a copy comes to my desk, you will get a full review.

GAC Paper Management System

Incentive have released a paper management system, in the form of a Designer Pad. Each pad has over 200 double sided pages of A4 and will aid in the development of your GAC adventures. It is available by mail order only from Incentive for £7.95 + £1.25 postage.

EXCLUSIVE**EXCLUSIVE**
News just in of yet another Infocom game, entitled Bureaucracy . . . the bad news it is going to be a game for 128 owners only. Release date c. September.

Newie from Ultima Camp

News hot from the old US of A to my desk is that Greg Malone one of the creators of the Ultima series has a solo role player available over there called Moebius. This takes the form of a trip into the world of the martial arts and includes a fully animated combat system using sword or martial arts, 3D perspective graphics, a constantly changing field of play, two types of magic plus magical combat, missile combat, and a training arena to get to grips with all of this. It is billed as "a new dimension in fantasy role playing", and this remains to be seen. However I do (courtesy of our esteemed Editor) have a copy in my possession, although there seems to be a slight technical hiccup on it (It's a US version) and as soon as this is sorted out you will have the full review, I promise.

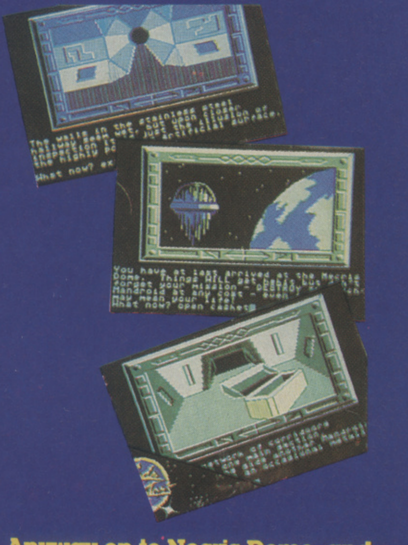
HAS MOEBIUS GONE ROUND THE TWIST?

Necris Dome

Necris Dome

Codemasters £1.99

Before we get into the actual storyline of this new adventure from the Darling family known as Codemasters, a word of warning. When you load this tape beware of the very strange loading system, as it took me one, yes *one*, week to come to terms with it. Apart from the usual stripes that cross the screen, there is a number of coloured screens which flash at regular intervals, then we get the title screen. Then we lose it, and get . . . nothing just a blank screen until the tape ends and then suddenly we are in. Please change the system boys for my sanity!



Anyway on to Necris Dome, and the story is set in the future, when space on Earth has become so scarce that a decision was made to commit all the Earth's dead to a floating cemetary orbit. This satellite is called the Necris Dome, and is run by mechanical mandroids whose leader is a chappie called surprisingly Archmandroid. Unfortunately he has become a renegade, turned the mandroids against Mankind and armed the ship with weapons to destroy the Earth.

You are a secret agent whose mission is to find out what is going on and knock off old Arch. The adventure opens after you have been smuggled aboard the Dome in a coffin and await the chance to get out and explore. This opening is very reminiscent of Snowball and to get out you have to push open the lid (ditto Snowball). In actual play, the game is let down by poor location descriptions, which keeps the atmospere to a minimum, which is a shame as the plot is a good one. There is another horrible trait, and one which leaves me demented whenever it happens in these games and I quote "It is very cold in here so you die". Just like that, with not even a "brr it's cold!" to give you at least one chance to get the insulation you obviously need in this room.

The graphics are nice in parts, in other parts pretty average, but on the whole give a reasonably good feeling of being on a spaceship. There are quite a few locations, and the puzzles are not difficult to solve, the main difficulty is moving from level to level within the ship and there are plenty of them.

Obviously you can't quibble too much for the price, it's funny how we have become accustomed to top dollar software at a budget price, and this is a fair stab at a good plot. Shame about the loader though.

Personal rating 5

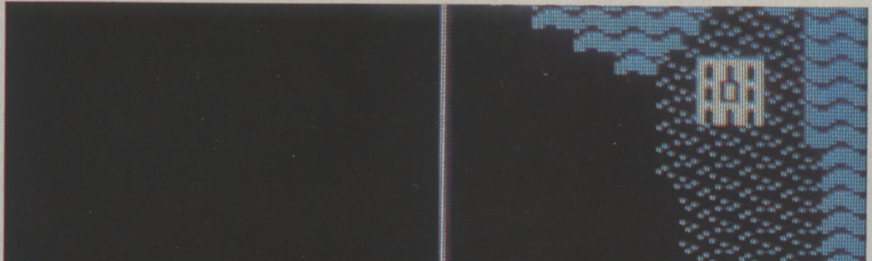
CONTINUED - PAGE 44

MIND FOREVER
VENTURING...

Phantasie II
SSI/US Gold £14.95

SSI is undoubtedly the number one producer of computer wargaming. No one has their commitment to detail either in the way they write their software or in the printing of the 40 page (at least) manuals that come with the packages.

With Phantasie I they diversified into Role playing D and D games, bringing with them their attention to detail and programming skill to produce a quest of excitement, magic, and entertainment to rival even the great Ultima series.



Phantasie II is the sequel, and I am pleased to say is every bit as playable as its illustrious predecessor. There are great similarities between the two games and I would think seriously before buying this newie if you already have the first one, (you can load your saved characters from the original, and continue from there) although there is a new plot and a few more spells to learn.

As in all good D&D games there is a main quest to accomplish, apart from slaughtering as many monsters as you can lay your blade on and in this one substitute the Dark Lord (Phan I) for Evil Warlock and for the nine rings of power substitute destroy evil orb.

You start off on the island of Ferronrah which lies south of Gelnor (your previous adventure) and it is from the main town that you recruit your party of trusty heroes. The locations in the town are icon selected, as are most actions in the game, making the procedure quite simple in an otherwise complex scenario. You can pick the classes of your choice (wizard, ranger, halfling etc) each possesses its own characteristics, experience and gold and it's up to you to determine their usefulness. Once you have decided on the party, a trip to the armoury is in order to equip the lads with some protection and weapons. When all this is accomplished just select the exit icon and you find yourselves outside the town on the main road, highlighted by an on-screen map. The map takes up about two thirds of the screen and the graphics, whilst not exactly state of the art, are certainly quite good enough to generate an exciting feel.

Once outside the safety of the town you are prey for all sorts of wandering monsters (there are around eighty different types) and in order to gain experience and gold you have to bash quite a few of them. Keeping to the roads at first will protect you from the real nasties, although you might get a few skeletons having a go at you just to keep your hand in so to speak. It's only when you venture off the beaten track that you really start to encounter some horrors.

Dungeons are to be found scattered around the island, and if you elect to delve into these, the screen changes to a blank, and only reveals each passage and room as you progress through them. Quite a nice touch that, as you never know quite what is lurking just around the corner. The actual fighting is carried out in the usual D&D style of rounds of battle, and you hear some tasty sound FX as sword meets sword, unfortunately, my main man Gandalf (original eh?) came to grief rather early on so I need a bit more practice before I get to finish it. As with all SSI products, there is a great manual to read, chock-a-block with spells and weapons and potions, all you need for a great quest. My only disappointment is that some of the loading off disc is tiresomely slooow, which does rather dampen my enthusiasm a bit, still it's in my top drawer.

Personal rating 8

Growing Pains of Adrian Mole
Mosaic/Virgin £9.95

This is the second in the Adrian Mole series, and I must admit to having a certain fondness for them. They are very well scripted, maintaining the same light hearted atmosphere as Sue Townsend's books, and due to Level 9's state of the art word compression techniques the game is not spoiled by the constant loading of new data. In fact you get the whole game in three loads, so well done the Austin boys.

Growing Pains continues another eighteen months of Adrian's diary, and as he has grown a little older since our last visit, his situations are naturally more tuned towards a maturing teenager rather than a young adolescent. The aim of the game is to try and make Adrian as popular as possible with everyone. This is done by deciding on his actions through a multiple choice system at certain points in the story. All his usual cronies are there along with Pandora of course, and I did find myself laughing out loud at some of the antics I got him involved in. Mosaic do point out that knowing the books will not help you as the plots have been changed in key places and there are a few random elements popping up here and there.

There are some graphics, the usual Level 9 style, but I found them totally unnecessary as the game works because of the witty text. If the graphics were astounding (a la Pawn) fine, but they are not so why bother?

Buy this if you already have the first, as it is just as good, buy it anyway if you don't have the original because you will love it.

Personal rating 9

MIND FOREVER VENTURING...

Hollywood Hijinx
Infocom/Activision
£19.95

EXCLUSIVE!!!

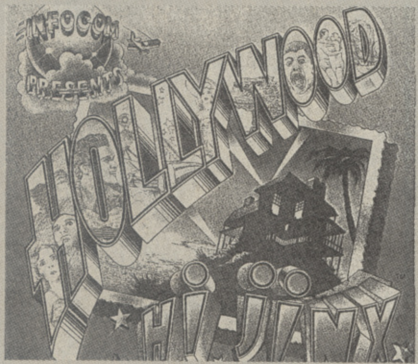
Those boys at Infocom have done it again and gone and produced a tough and challenging yet very witty adventure based around those awful B movies of the 50's.

If you remember I was the first to break the news of Hollywood Hijinx back in the Feb issue of CCI and I have been itching to get at it ever since.

When you think of it, with titles like "The Return Of The Blob" and "The Thing Meets Godzilla" it's no wonder Infocom picked Hollywood as the subject matter and to my mind, it is as if they have a score to settle with tinseltown, as their previous release "Leather Goddesses of Phobos" was not entirely distant from the hero/movies theme.

In Hollywood Hijinx, you play the nephew of Buddy Burbank, famed producer of a whole series of B movies (who can forget A Corpse Line and Melt Down on Elm Street) and who became fabulously wealthy churning out these horrors. He lived along with his wife Hildagarde, in a palatial mansion on Malibu Beach, which contained everything that befitted a famous Hollywood producer from the Oscar shaped gold taps to its own private screening room.

What has happened is that Ol' Buddy and Hildegarde have passed away, and in their will they name you sole beneficiary of their Estate, the lot, the whole caboodle, with one stipulation. Hidden in the house and gardens are ten treasures, and these have to be found in one night. Failure to do this results in the inheritance being passed on to their other nephew Herman (you were always their favourite).



So here you are, dropped off outside the house at the dead of night with only a flashlight, a photo of Buddy and a copy of the will to your name.

This brings us to the first problem — how to get into the house, all the doors are locked and you don't have a key. No tips here except to say that the clue is in the bits that come with the Infocom package. Once inside the mansion there are some lovely location descriptions, taking you back to when you played here as a kid — oh what memories!

All over the house are various props and mementos from Buddy's films and in particular there is a highly amusing sequence involving a scale model of Tokyo. It's an all-working all-dancing recreation of monster-attacks-city-smashing-all-in-its path-until-planes-come-and-kill-it variety. Just watching the entire sequence is hilarious, but there is a nasty problem here, how do you get the diamond ring out from under the dome covered model?

It's just this sort of hilarity mixed with ingenious puzzles (some are very tricky indeed) that makes this game another winner.

The only boring thing about Infocom games is the predictable system they use. We all know and expect the powerful parser, and user friendly program, and it's a system that has been used successfully now for years, that's why we come to take it for granted. What it does though is let the author just get on with what he does best — writing good plots, and there's no doubting the writing talent at Infocom.

This game is not just about exploring the mansion, there are also the grounds and garden to look over and I warn you a formidable hedge maze which, so the press release states, author Dave Anderson devised using paper clips on the floor of his office!

I haven't finished Hijinx yet but I'm pretty sure that Cousin Herman is not just waiting around for you to fail, he's here somewhere, I'm sure. Fear not though Hollywood Hijinx is a great spoof, well worth the money and certain to become an Infocom classic.

Personal Rating 10

Adventure Help

Return to Eden
In order to be able to carry more items you need to eat the bean. If you are stuck on the platform puzzle, remember that there are two platforms and to ascend, the other platform must be heavier than yours (drop things on it) vice versa to descend.

Adventure Quest
At the top of the pyramids are poisonous snakes, play the pipes and they will disappear into their holes.

To move the rocks you will need the help of the abominable snowman.

The Hobbit
To find the ring from Goblins Gate go d,d (wait for goblin) n,se,e take ring then go n,se,w,n,d,s,w,e,u through back door.

Dear Andy,

Sandra Sharkey has sent me an issue of her own magazine ADVENTURE PROBE which costs £1 and is full of interesting hints, reviews and comments. Also there's a map each month of a favourite adventure. Keep up the good work Sandra and let me know how things are going. I might even give you a tip or two. You can get in touch with her at 78 Merton Rd, Highfield, Wigan WN3 6AT.

Dear Andy,
I was wondering how in Ultima IV you went up a level. Is it when you get 9999 experience? If so does everybody in your party have to get this amount before you go up a level?

Also where is the lighter than air device, and where is the Mandrake Root?
Christopher Mungall, Scotland

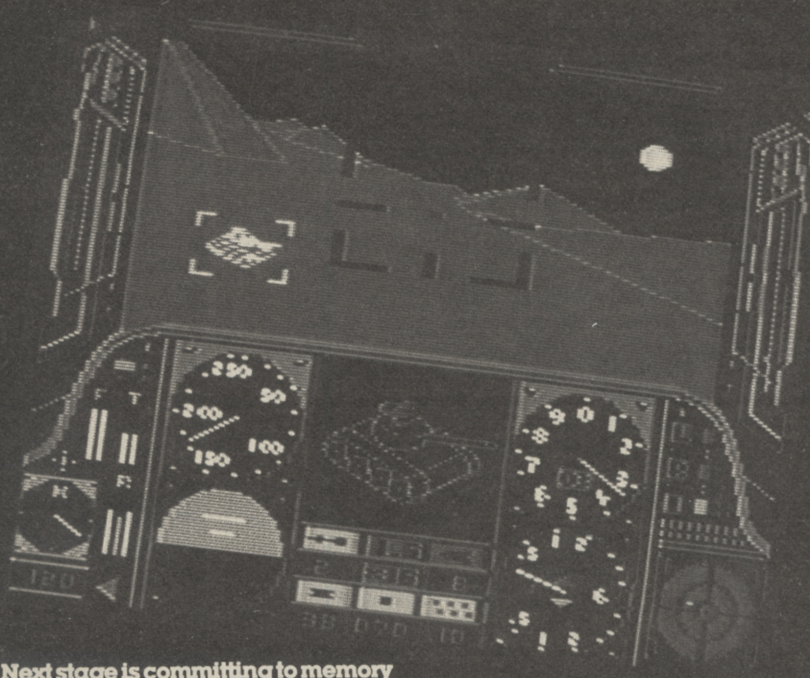
Hi Chris, It's good to see you are doing well in Ultima, stick with it. You raise levels in this sequence level 1.100 pts level 2.200 pts 3.400 pts 4.800 pts 5.1600 pts etc. most character start on level 2 except Paladins, fighters and shepherds. The Mandrake root is in either Moonglow or Skara Brae (buy it in the shops) and the air device is most certainly around the dungeon Hythyloth — just ask Sniflet.

That's all for this month, hope you learned a few pointers. If you have any adventures of your own that you would like me to see, send them in to me, Andy Moss at CCI 40 Bowling Green Lane, London EC1. See you next time.

A.M.

GUNSHIP

What is it like to fly on a Microprose Gunship mission? Andy Moss earns his wings and a medal or two, and lives to tell the tale.



I glanced up at the sign. It read Microprose Academy. It was now or never, if I were to realise my ambition of piloting a £7 million Apache attack helicopter into battle I would have to take these first furtive steps to complete my training course successfully. So it was not without a little trepidation and hesitancy that I plucked up the courage and went in. I was to learn that being an existing chopper pilot was not enough, there was a great deal of new technology on the Apache and some of the defence systems were so new, I hadn't even heard of them before, let alone used them.

As a sergeant I was the lowest ranking soldier to be allowed on this bird and looking down the list of previous qualifiers there were some pretty tough acts to follow. Still, you've got to start somewhere, haven't you? And it couldn't be better than here.

The first stage of training is to learn to identify many different types of attack machinery from rocket launchers and tanks to other choppers. It wouldn't do in the heat of battle to start blowing up our own guys now would it? (20% of U.S. casualties in Vietnam were caused by the U.S. forces themselves!)

AH-64A APACHE SPECIFICATIONS

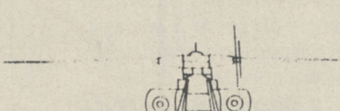
Overall Length: **58'2"**
Overall Width: **48'0"**
Overall Height: **15'3"**
Weight Empty: **10,268 pounds**

Engines: **two T700-GE-701 turboshaft jets**
Nominal Engine SHP: **1,649 per engine**
Maximum Engine SHP: **1,896.4** (running on one engine)
Rotor Speed: **280 RPM**
Fuel Capacity: **376 gallons**

Maximum Horizontal Airspeed: **162 knots** (184 mph)
VDL "never-exceed" Maximum Airspeed: **197 knots** (224 mph)
Rated Maximum Climb: **2,880 feet per minute**
Service Ceiling: **20,500 feet**
Avionics: **VHF, UHF, IFF, PNVS, TADS, DASE,** Doppler Nav.

Maximum AGM-114A Hellfires: **16 missiles**
Maximum 2.75" FFAR Rockets. **four 19-rocket pods (76 total)**
Maximum 30mm Rounds: **1200 rounds**
Maximum AIM-9L Sidewinders: **6 missiles**
Maximum FIM-92A Stingers: **6 missiles**

Production Cost in 1986 dollars: **$7.3 Million each**
Amortized R&D Cost in 1986 dollars: **$1.1 Million eacl**



Next stage is committing to memory all the technical data (blade span, load limit, fuel consumption etc.); boring but necessary, I realised, but I was itching to get my hands on the actual chopper — I wanted to fly —desperately.

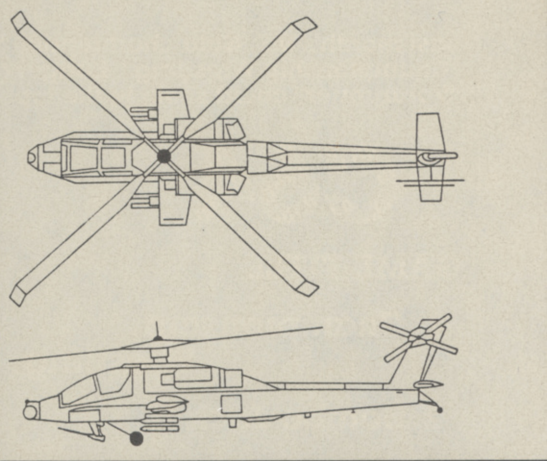
The moment was approaching, as we were given a briefing by the C.O. describing our training flights. "You'll be shot at" he said solemnly, "but all our units will be firing blanks, this will give you some indication of battle conditions and will give us an idea of how well you manage to avoid the flak. We will provide you with an initial target and also a secondary target, map co-ordinates and weather conditions. After that it's up to you".

After a quick visual display of the weaponry available to us (in training we only use cannon and hellfire rockets) the moment had come when I could finally step into my Apache Chopper. Climbing into the cockpit I was amazed to see how incredibly uncluttered it was, with the main altimeter and airspeed dials dominating, surrounded by fuel and engines on/off gauges, and automatic digital compass, icon select weapon system and anti missile jamming buttons. Across the top of the cockpit is a series of lights to indicate various damage reports and in the middle of the controls, the famous computerised map/ enemy identification/message display unit.

The most innovative part of my Apache is the automated target system called TADS. This is a fabulous instrument that pinpoints possible enemy objects by a simple press on the joystick trigger and then proceeds to track the object as long as it remains in view. All it then takes is a further press on the trigger to shoot off my missiles or cannon and with a bit of luck it's 'goodbye enemy'.

O.K., let's take this bird up! Being constantly reminded that this is a multi million dollar machine does nothing for my nerves and I feel my fingers trembling as I hit the power-up buttons and at the same time a surge of adrenalin as I hear the whine of the port and starboard engines gathering speed. Next comes 'Engage Rotors', and a satisfying chug, chug starts to speed up into a powerful growl as those huge blades begin to whirl. Now I'm in familiary territory, as in take off, one helicopter is just like another, and when the blades are spinning, just a few taps on the 'collective up' will get you airborne. Rising a few feet I gently push the cyclic (joystick) forward and with a surge of power we are off. At about 30 knots she begins to climb, this is typical, for a helicopter flies in a 'nose down' fashion and at this speed you get extra lift. To counteract this a few taps on the collective

The AH-64A Apache was designed and built by Hughes Helicopter Inc., a subsidiary of McDonnell Douglas Aircraft. Phase I development in competition against Bell Helicopter began in 1972. After a "fly-off" Hughes was awarded the Phase II full-scale contract in 1976. Final prototypes were approved and manufacturing began in 1982. The first of over one thousand AH-64's rolled off the production line on September 30, 1983. It will serve in most major U.S. Army units, as well as selected Army Reserve and National Guard units. Its primary function is close ground support, especially against enemy front-line armored vehicles and anti-aircraft weapons. The craft is armored to withstand hits from 23mm cannon. Cost per machine is based on a price quoted to West Germany in spring of 1986.



down, levels you off. I'm flying over the training ground now and sure enough those blanks are firing away at me, so a spot of manoeuvring is necessary to try and dodge the flak. No good, they are still tracking me, so the next option is to throw open the missile jammers. I hit the buttons and instantly the explosions stop, — very impressive — must remember that little gadget when it's all for real.

Coming up from behind a hill, I spot my target — a hut on coordinates 06.05. I push TADS and up comes the sight, nice and clear, the hut image appears on my monitors and selecting the hellfire icon, I press the trigger. With a whoosh, the rockets are released and the recoil sends me off course, but not before I see a satisfying explosion and the words "Primary target destroyed" come up on the monitor. Deed done, I make a 45° turn and head back to H.Q., euphoric in my achievement.

It's not long before the base is back in view, and in text book fashion I land my Apache back on the 'T' to applause from my comrades. That was an experience. My first flight in the dream machine and it went... well, like a dream. I climb out to be greeted by my C.O. who shakes my hand and congratulates me on my training results and assures me that not only am I ready for active service, but that I am promoted to Warrant Officer!

Two weeks later. My first posting to the front line and it's in South East Asia. It's been pointed out to me that this is a piece of cake; the enemy has obsolete weapons, no computer aided missiles or radar. What is a problem though it that they hide very well and the monitor map will not pick up N.V.A. forces until they start firing at me, so one slip and I could be in trouble. Thankfully, the Apache has armour plating...

The mission is planned, I'm to find and locate the N.V.A. headquarters at map 11.03 and as a secondary target Infantry at 09.02.

Climbing into the now familiar cockpit, I power up, and turning to the monitor map set a course for the H.Q. The automatic compass reads out the digits and turning until I match them, I push forward and skim across the hills and bush at around 100 knots.

Suddenly, the bullets fly and the explosions are all around me — the chopper shakes, hit by a shell — no damage — the armour held — thank goodness. Instinctively I start weaving and changing height, go in low. they told me, you're harder to hit. This does the trick for a while, check the map, not far to go, across the river and south of the building. Suddenly all hell is let loose and gun placements appear on my map all around me. Bad! I was too busy checking my map to notice and I'm caught in a crossfire. Bang, Shudder, — the chopper is taking a lot of damage, I've got to do something fast. Check the map, there is a friendly base not far, change course, try to limp to the base, and get repaired. Still the shells come — this is easy? A piece of cake? You must be joking — it's not like the training ground — these shells are real!!

Luckily, I just make it and refuel and get repairs and within a few hours I'm off again, this time taking care to watch for trouble.

At last, I spy the target and getting TADS up on screen I look on release four Hellfires. The first two miss, but the next two blow the place to bits. Turning swiftly I change course for home, firing the cannons at some gun emplacements to keep off the flak. I've used up all the rockets now so the secondary target is out of the question. Let's get her back to base and sleep for a week.

I execute a tight turn, make a full power surge checking that my compass co-ordinates match and hurtle back across the brown sun baked landscape towards base.

The flak is still coming at me, and evasion is paramount as shell after shell is displayed on the radar (little dots getting nearer a central marker) dodging and weaving, the Apache responds well. I drop to 100 feet and loose off a few rounds of cannont at a gun emplacement, the resulting explosion confirms my hit and the flak stops for a while.

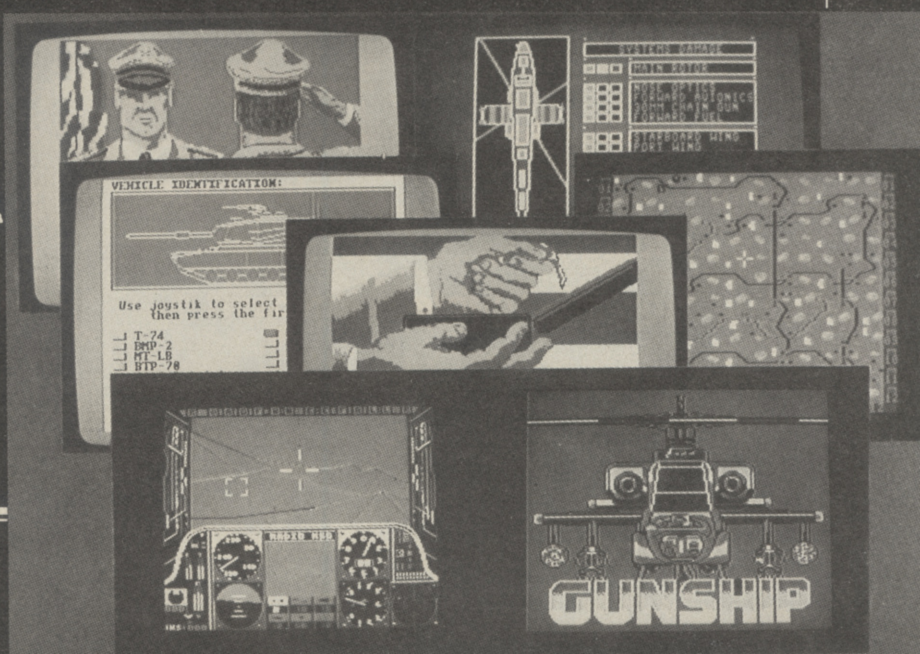
With all this dodging, I check the fuel. Oh no, dangerously low — is there enough left to get me home? Panicking, I jettison all my weapons to lighten the load and slow up a touch. Eyes glued to the fuel gauge as it slowly drops... There, the base comes into view, and with a sigh of relief I know I'll make it. But what's this, the radio flashes 'Message'. Hitting the receive button, I get a code word to acknowledge. My mind is blank — what is the password? If I don't acknowledge the base will take me as enemy and shoot me down! Quick think man, Lozenge, lozenge, what is it!!! Suddenly 'Romantic' comes into my mind and I furiously type it in. O.K. I pass. Phew, that was close, next time write it down dummy!

I make it back and after a severe reprimand from my C.O. for getting caught in trouble I received a National Defence Medal for my efforts.

I've done it, my first combat in an Apache Gunship, and lived to tell the tale.

How about you joining Microprose Gunship School and helping out, as after Asia, we've got Central America and Western Europe to tackle and I'll need a lot of help. Spend £14.95 and enroll now — it's worth every penny.

A.M.



VEHICLE IDENTIFICATION:

Use joystik to select
then press the fir

T-74
BMP-2
MT-LB
BTP-70

TOP TWENTY

Last month's U.S. Gold chart-topper "Gauntlet" has been replaced by another U.S. Gold smash, "Championship Wrestling". Budget games dominate on the C16 front, but Jeff Minter's "Voidrunner" could shoot to the top.

C64

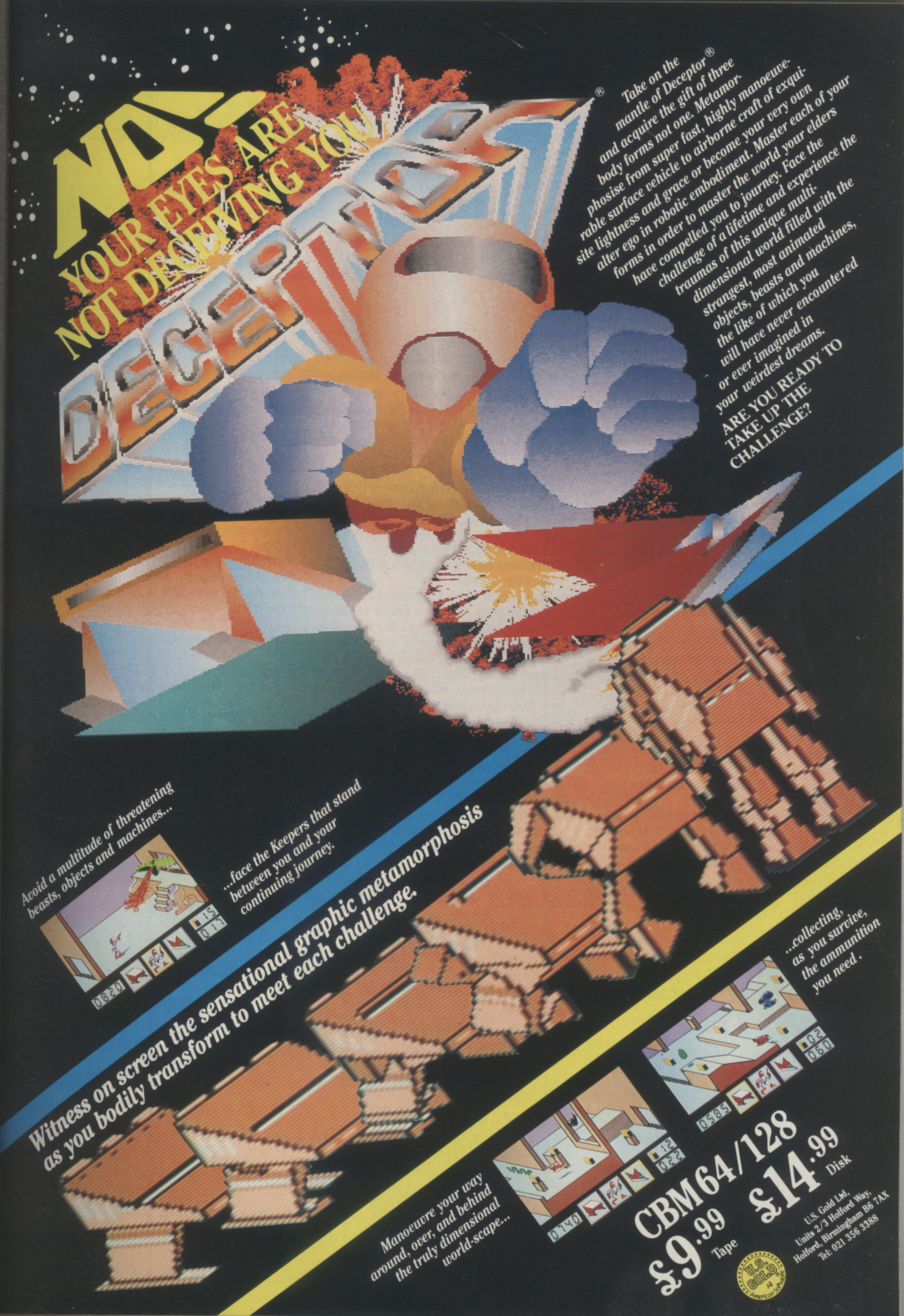
	GAME TITLE	COMPANY		Price(£)	Rating
1	Championship Wrestling	US Gold	★	9.99	T.B.A.
2	Bombo Jack II	Elite	★	9.95	T.B.A.
3	Gunship	Microprose	★	14.95	Mega
4	Gauntlet	US Gold	↓	9.99	Mega
5	Arkanoid	Ocean	★	8.95	T.B.A.
6	Paperboy	Elite	↓	9.95	Mega
7	SWAT	Mastertronic	↓	2.99	T.B.A.
8	Karate Champ	Americana	★	2.99	T.B.A.
9	SOS	Mastertronic	★	1.99	T.B.A.
10	Elevator Action	Argus	★	8.95	T.B.A.

C16

1	Winter Events	Anco	↑	7.95	Awesome
2	Molecule Man	Mastertronic	★	1.99	T.B.A.
3	Power Ball	Mastertronic	→←	1.99	Crisp
4	Speed King	Mastertronic	↓	1.99	Crisp
5	Gun Law	Mastertronic	★	1.99	T.B.A.
6	Storm	Mastertronic	↑	1.99	T.B.A.
7	Prospector Pete	Mastertronic	★	1.99	T.B.A.
8	Megabolts	Mastertronic	★	1.99	Crisp
9	Future Knight	Gremlin	★	6.95	T.B.A.
10	Voidrunner/Hellgate	Llamasoft	★	6.95	Mega

★ *NEW ENTRY*

Compiled by CCI from leading distributors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Holford, Birmingham B6 7AX
Tel: 021 356 3388

Scooby Doo — Elite

DODGY

Oh oh . . . another Elite release . . . watch out! This time you're Scooby Doo in the Castle Mystery. You have arrived with your friends Velma, Shaggy, Daphne and Fred at the ruins of a castle wanting to explore it. Suddenly your friends are seized by large hands and you hear voices cry out "Our experiments are almost complete. Nothing can stop us now!" (How original . . . Yawn . . .)

You decide to investigate and look for your friends even though you are frightened and there we have a perfect chance to make a computer game.

You start the game at the end of a corridor. As you walk forward you meet a balloon-like figure — you punch and it shakes and disappears. You walk on. You see a flight of stairs, up you go. At the top is a skull, you jump over it — a bleep sounds and out from behind a door appears a worm-like ghost. It touches you. You shake and die. You reappear and spy something that looks like . . . well its not nice to say *what* it looks like really so I'll tell you. It's a Scooby Snack which will give you an extra life.

That's about the content of this game, except that on the next level evil looking men chase after you. I found it very, very boring.

The graphics are good and Scooby Doo, longtime arcade favourite might well have given the basis for an excellent game — too bad Elite didn't carry through with it and really make their well-known conversion expertise count.

C.K.

C16

Price: £6.95
Graphics: ★★★
Sound: ★
Playability: ★★
CCI Rating: Dodgy

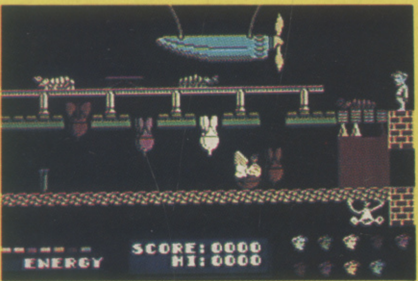
Computer Hits 3 — Beau Jolly

CRISP

Computer Hits 3 is (as the name suggests) the third is a series of compilations.

The original Computer Hits contained such smashes as Space Pilot and Chuckie Egg. In the sequel Computer Hits 2 had Superine 2 and Gribblys Day Out.

As for Computer Hits 3 it leads off with Cauldron, Crazy Comets, Dynamite Dan and Herbert's Dummy Run.



Other games on the compilation include Geoff Cape's Strongman, Elidon, Blagger goes to Hollywood, 3D Lunattack, Attack of the Mutant Camels and finally Basildon Bond.

These kind of games are just as good as They Sold a Million and other compilations of past hits if not better, because you get twice as many games.

An extra bonus with this game is to fork out £5.99 and you get a Computer Hits Sweatshirt if that's your cup of tea!

So overall then 10 games for £10 can't be bad. Okay so some of them may not be brilliant but the four that I mentioned earlier are worth it if nothing else. They are all really entertaining. If you've never played them before you will be delighted. If you have, you've probably worn out at least two of the games, so it's worth getting this compilation.

This would make an ideal birthday present or Christmas present. Really good value for money indeed!

By the way Blagger goes to Hollywood is worth loading up even if its to listen to the music at the start. Excellent stuff.

J.A.

C64

Price: £9.95
Graphics: ★★★
Sound: ★★
Playability: ★★★
CCI Rating: Crisp

Moon Crisis 1999 — Midas

CRISP

Let me whisk you off your feet and up into space to do battle with enemy aliens and enemy spacecraft.

You are in control of an Eagle spacecraft. Your task is to hover above the moons surface and defend your bases from other space ships that come down from the upper heavens and deposit time bombs onto your beloved bases.

However you can easily put a stop to their little game because your craft has the ability to pick up the bombs and drop them down a black hole.

From time to time a refuelling craft flies across the top of the screen. When this occurs you must position your spacecraft in front of the spacecraft in order for you to refuel.

One snag however is, when you are in possession of a time-bomb and the time reaches zero then you lose a life!

I know a lot of you out there are probably thinking to yourselves same old boring shoot-em-up.

But don't judge a book but its cover and the same goes for Moon Crisis 1999.

For £2.99 its not at all bad value and quite enjoyable to play. It makes a change from arcade conversions and adventures etc.

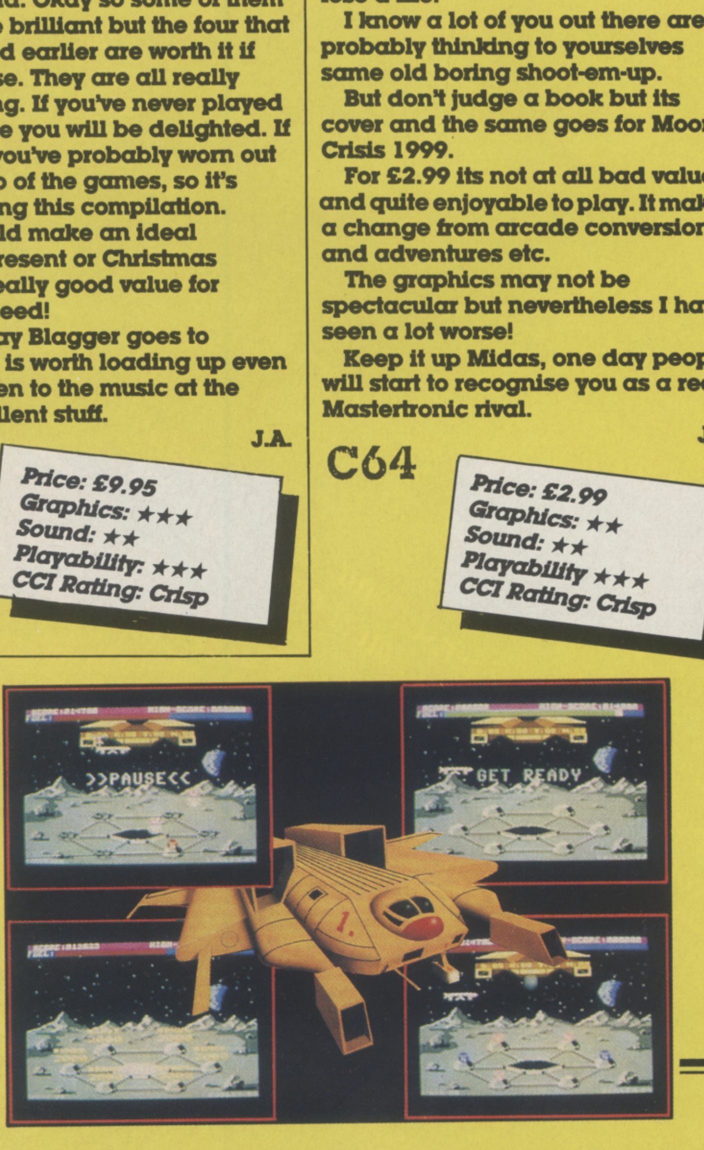
The graphics may not be spectacular but nevertheless I have seen a lot worse!

Keep it up Midas, one day people will start to recognise you as a real Mastertronic rival.

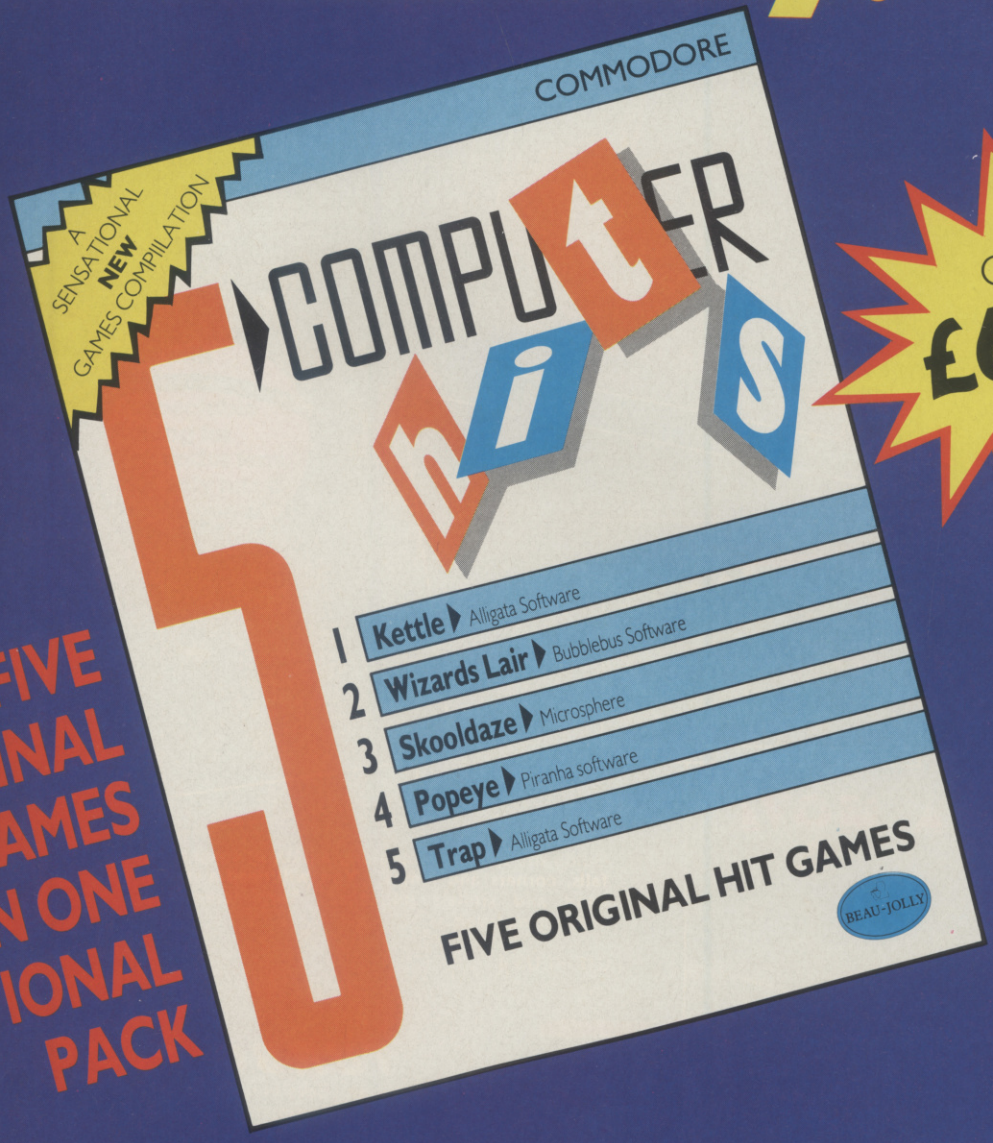
J.A.

C64

Price: £2.99
Graphics: ★★
Sound: ★★
Playability ★★★
CCI Rating: Crisp



Another Great Compilation from Beau Jolly!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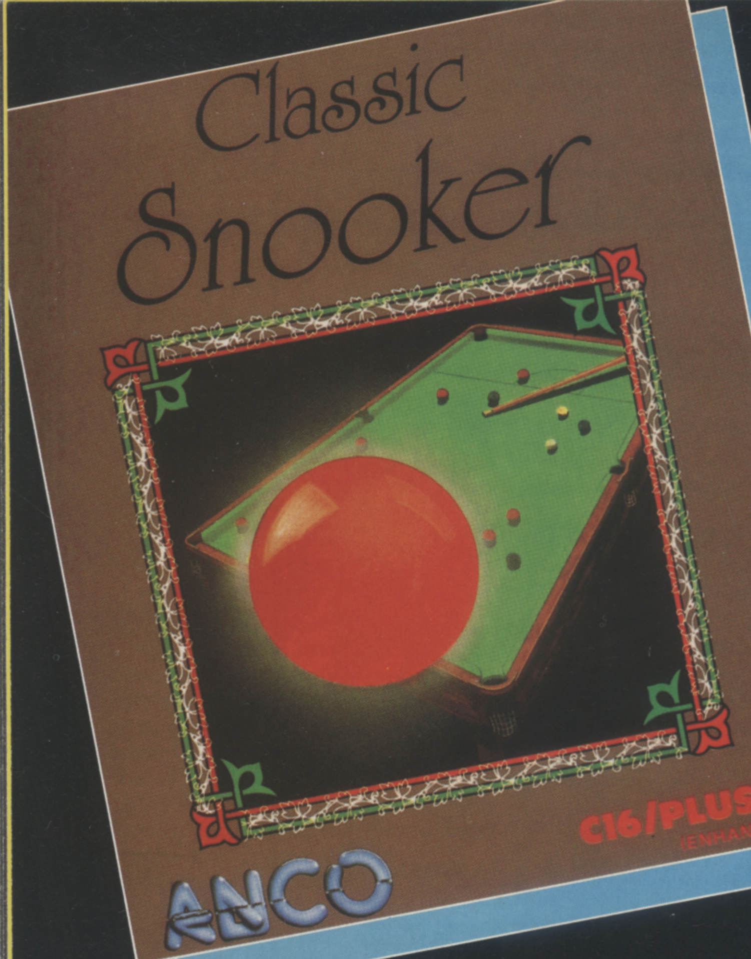

Classic Snooker

CBM 64/128 **C16/PLUS 4**

AUTHENTICITY CLARITY OF GRAPHICS ACCURACY

Classic Snooker is entertainment at its best and a tough challenge with facilities to practice and improve. Perhaps one day beat the computer at its own game!

Computer option. Play against the computer or a friend.
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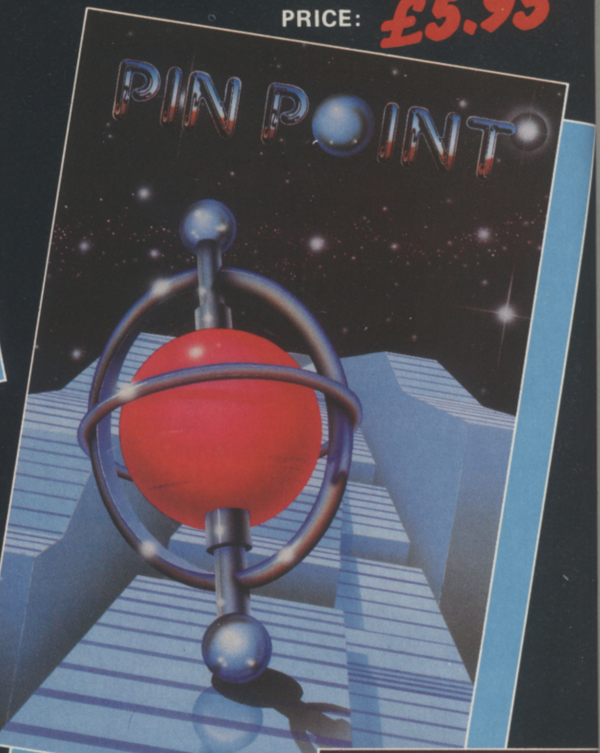
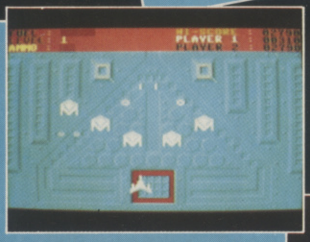
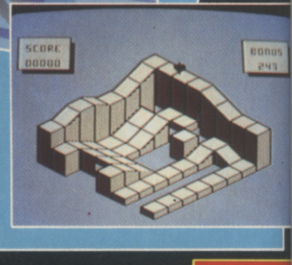
Clear identification of the colours on a green table.
Facility to set the table and practice those difficult shots (CBM64, PLUS 4 and C16+64K expansion).
Fine control of the power of the shot and facility to impart TOP, BOTTOM or SIDE spin to the cue ball.

PRICE: **£5.95**





HI-SCORE
PLAYER 1
PLAYER 2
AMMO



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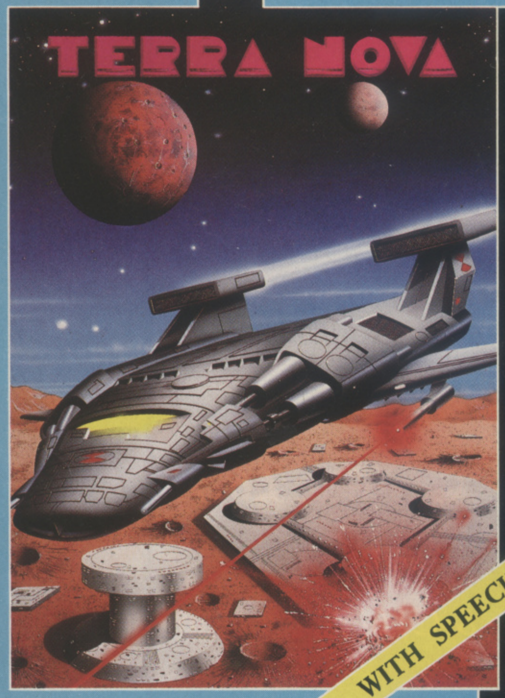

Four heavily defended sectors to explore for possible landing site. Dock with the fuel tanker before starting the next sector. Smooth scrolling graphics with fast and furious action. Enhanced PLUS 4 version included.
C16/PLUS 4 £7.95

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A unique utility cartridge. Save your Basic programmes with Turbo for fast loading. Additional Basic commands like FIND, CHANGE, DUMP, OLD, KILL to make the BASIC programming easy. Scroll your listings back and forth using cursor keys.
For the PLUS 4 owners, the built in software like word processer and data base can now be used with a CASSETTE player. It also corrects the bug in the file manager. C16/PLUS 4 Cartridge £19.95

C16-PLUS 4 REFERENCE BOOK

The book lays special emphasis on the graphics, sound, music and machine code programming. The graphics cover standard, multi colour, high resolution, bit mapping, soft scrolling and raster-interrupt. It's coverage of machine code is extensive and gives full information regarding KERNAL routines and how to use them in your own programmes. The book gives complete memory map, 7501 processor commands, C64-C16 comparison chart to enable conversions and all important KERNAL jump table. The subject under discussion is explained lucidly and illustrated by examples, often with line by line explanation.

£7.95

64K RAM PACK

The Ram Pack expands the memory of C16 to full PLUS 4 memory capability. If you are using the computer as a word processor or data base, the extra memory is almost essential. Of course you will also be able to play PLUS 4 only games.

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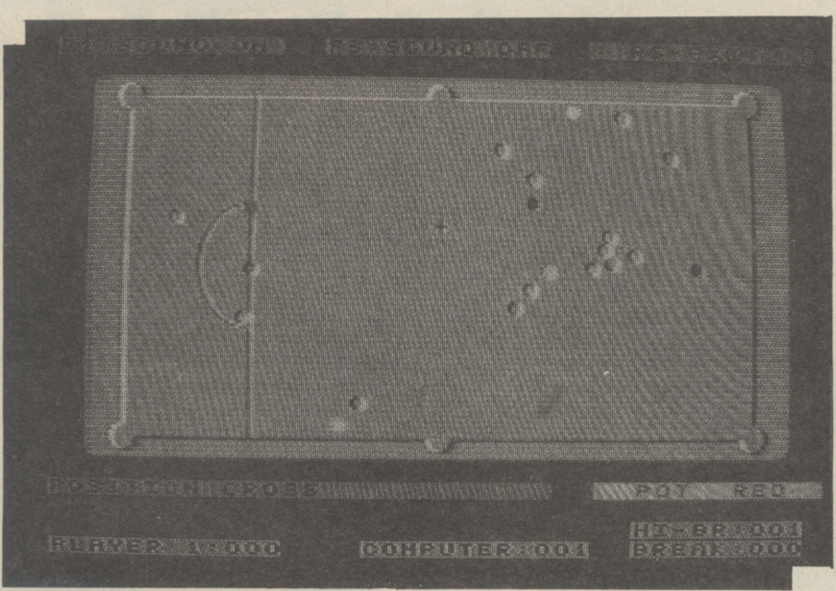
C64/C16/PLUS/4

CRISP

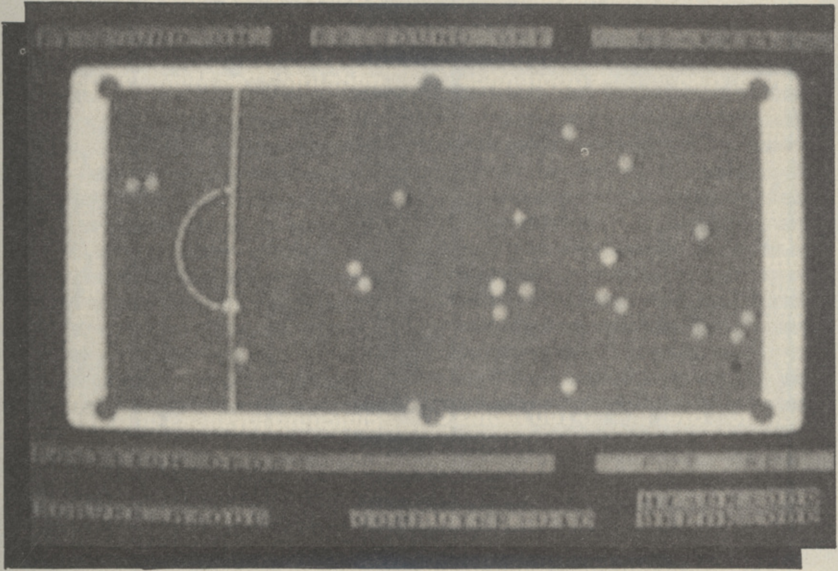
Classic Snooker — Anco



Snooker . . . It's certainly changed in recent years . . . When it first hit U.K. TV a few years ago, snooker had a nastily sleazy image of smoke-filled halls crawling with layabouts and small-time criminals, generally unshaven and with cigarettes drooping. TV took snooker and make it respectable creating favourite watching for millions of all ages from under tens to knitting grannies. Not only has it smartened up and become one of the U.K.'s top ten spectactor sports but its appeal has spread around the world fast. Europe . . . Japan . . . South America even . . . all are being caught up in the trend.

So it's no surprise that a similar trend has show up to put the game onto computers which are spreading across the globe too.

The Anco version is going to take a solid place in this computer game snooker wave, and it will certainly be popular among the fans who huddle over their TVs until the early hours of the morning locked into some dramatic last frame, last black final. Especially, if they get up next morning bleary-eyed and feel an urgent desire to emulate the heroes of the night before.



Classic Snooker offers three levels of play: Amateur, Novice and Professional. You can play against the computer only or take on a human opponent. Before you play a shot, you select the ball you want to hit and move a rifle sight style cursor onto the position on the ball just as you would in a real snooker game. You can also impart top, back or side spin and control the level of strength of shot you want to play.

That may sound complicated but it isn't. It's very easy to do. Then press the fire button and feel that moment of satisfaction when the ball drops in the pocket, or not as the case may be. Because it is by no means easy always to make the right judgements.

Details of scores, current and record breaks are shown automatically. A useful addition to the normal sports games ideas is an Edit Mode. This lets you set the table up exactly as you want and so practice any of the trick or ordinary shots you want to master. Practice enough and you can perfect difficult shots and win yourself some cash by "hustling" like Paul Newman and Tom Cruise in the new movie "The Color of Money"!

You can play with either joystick or keyboard, though I can't see the keyboard option getting much use.

This is not a game that needs a terrific lot of skill to start with — though you'll certainly need cool nerves and hot shots when you play the computer at the professional level. The balls just fizz around the table! Maybe you are a real Hurricane Higgins and will tear off the shot. But anyway even beginners can find it fun.

ANCO have done a very useful job here and are to be congratulated on laun C16 versions at the same time. There is no great difference between the two in playability. Both versions are likely to find an enthusiastic reception from fans already addicted to snooker and other people who haven't ever tried the game.

Z.M.S.

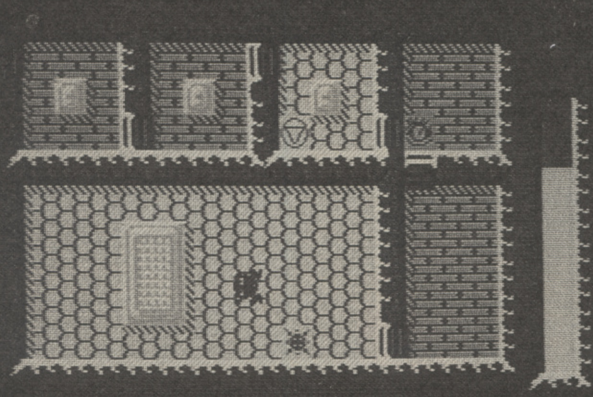
Price: £5.95
Sound: ★
Graphics: ★★★
Playability: ★★★
CCI Rating: Crisp

MEGAREVIEW

C64

CRISP

Rana Rama



Rana Rama — Hewson

Hewson have a particular style of game. It is not that all their games look alike — far from it. There are always plenty of novel things coming out of their Oxford stable. (In fact there are quite a few copies of their games around so that some other software houses' stuff looks more like Hewson games than Hewson games do, if you see what I mean.) No, a Hewson-style game is one that is smooth to play, doesn't need too much brain but demands a hell of a lot where the fast reflex side of computer gameplay is concerned. They are also exceptionally well programmed, don't have many glitches to glitch you or bugs to bug you (except in this case various insect-like nasties) and provide damn good value for money. They are as close to real Arcade shoot 'em ups as Hewson can manage — and that's pretty close. It probably comes from the idea that has got around that Hewson seem to have perfected their act on Speccys — where the audience, as every self respecting Commodore owner knows, is just a little bit on the dim side and needs simple games that don't stretch the struggling brain cells too far.

But that's not knocking games like Bananarama — sorry Rana Rama. It's going to give lots of people — even bright Commodore players like you and me — plenty of hours of pleasure — and frustration — but that's a part of pleasure, too, or so a certain girl Jackie tells me. (Who is this Jackie? Isn't she a magazine? So why are you mentioning her then? Ed)

In Rana Rama you control Mervyn, a sorcerer's apprentice (and we know what happens to them, don't we Fantasia fans?) His is the only survivor of an invasion of evil warlocks (no relation Pop Com!) He managed to evade capture as he had accidentally transformed himself into a frog while trying to make himself tall, handsome and muscular (sounds like a real Speccy owner, doesn't he?) You have to tackle 12 wizards per level who are guarded by troops scattered over the 50-100 rooms on each level. You can see the rooms from above with about 5 to each screen. When you get to a wizard, you've got to shoot him down using some fast reflex work. There are eight levels of missiles, eight levels of power and eight levels of shield for you to get. The missiles, power and shields are all graded for difficulty and so are the nasties. So it's no good shooting up a fourth level nasty with a first level missile. You can, if you are lucky, grab some spells and beat the wizards with runes (don't tell me you don't know what a rune is! Everybody knows what a rune is — except Speccy owners, of course!)

There is no doubt about it. Rana Rama is a wicked game. You'll hate the nasties but you'll keep coming back for more. Just one more room . . . just one more level . . . Jollygee Banarama . . . is it really midnight? Yes Mum, I'm going to bed . . . after one more room . . . any moment now . . .

Rana Rama ought to be good. It was programmed by Steve Turner who programmed Astroclone, Avalon and more recently Quazatron. He now works with Andrew Braybrook, author of Hewson's last year's smash Uridium. With a touch of the Gauntlet about it, this is no Uridium. But it's going to keep loads of Hewson fans clutching joysticks and getting square-eyed, possibly right through this year.

Z.S.

Price: £8.95 (c) £12.95 (d)
Graphics: ★★★
Sound: ★★★
Playability: ★★★
CCI Rating: Crisp

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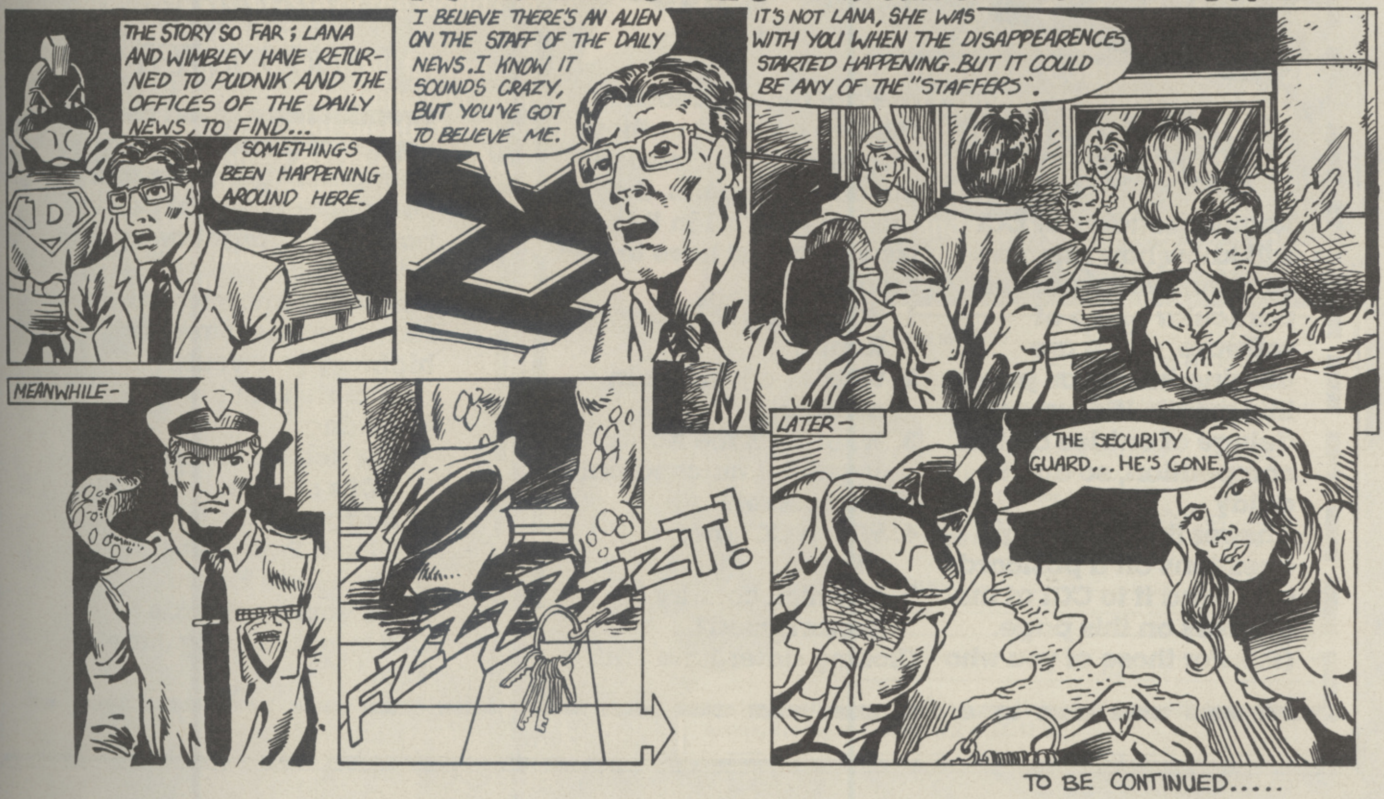
ENCYCLOPEDIA GALACTICA 11; ONE OF OUR STAFF IS ALIEN.


THE STORY SO FAR ; LANA AND WIMBLEY HAVE RETURNED TO PUDNIK AND THE OFFICES OF THE DAILY NEWS, TO FIND...
SOMETHINGS BEEN HAPPENING AROUND HERE.
I BELIEVE THERE'S AN ALIEN ON THE STAFF OF THE DAILY NEWS. I KNOW IT SOUNDS CRAZY, BUT YOU'VE GOT TO BELIEVE ME.
IT'S NOT LANA, SHE WAS WITH YOU WHEN THE DISAPPEARENCES STARTED HAPPENING. BUT IT COULD BE ANY OF THE "STAFFERS".
MEANWHILE-
FZZZZZZT!
LATER-
THE SECURITY GUARD... HE'S GONE.
TO BE CONTINUED.....

Competitions

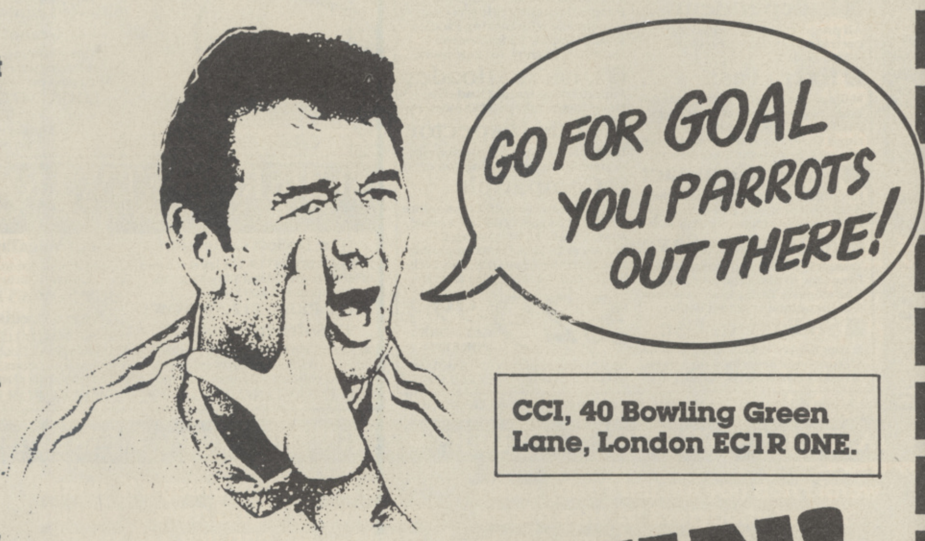
WIN!

WIN BRIAN CLOUGH'S FOOTBALL FORTUNES

CDS's novel football management game is not just another simulation. It combines computer features with a board game, giving an exciting, competitive edge as you play against your friends. You must steer your human and computer controlled team through the season, aiming to win the league, the F.A. Cup and succeed in Europe. We have ten copies and ten footballs to give away to CCI readers.

To enter this competition answer the following questions on a postcard and send it to CCI to reach us by June 15th.

1. **Name one team Brian Clough played for as a footballer**
2. **Name two teams Brian Clough managed**
3. **Name another footballer called Clough**
4. **Name another CDS sport or games program**
5. **What does the English League Manager of the Month receive as his prize?**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Lane, London EC1R 0NE.

WIN!

SPEED KINGS!

WIN A KONIX JOYSTICK

Regular readers of CCI will know how often we sing the praises of this particular piece of software, so we are offering twenty as prizes this month. We expect a deluge of entries on this competition, so don't delay . . .

Answer the following questions on a postcard and send it to CCI at the address on this page. (P.S. For those of you who are *not* regular readers (shame on you!) or those who might have missed out on CCI reports, the answers are all in this issue, you just have to find them . . .)

1. **Who is the M.D. of Konix?**
2. **What is a joystick in aviational terms?**
3. **When was the Konix Joystick launched onto the market?**
4. **Which CCI award did it win?**
5. **In which country is Konix based?**

Closing date: June 15th

WIN!

WIN GREMLIN'S HIGHWAY ENCOUNTER

Gremlin have given us 25 copies of their "Highway Encounter" game for this competition, so get pen to postcard straight away and enter!

Just let us know which road, avenue, street or highway you would associate with the following.

1. **Sherlock Holmes**
2. **CCI's offices**
3. **Margaret Thatcher**
4. **Gloria Swanson**
5. **The White House**

Send your postcards to CCI to reach us by June 15th.

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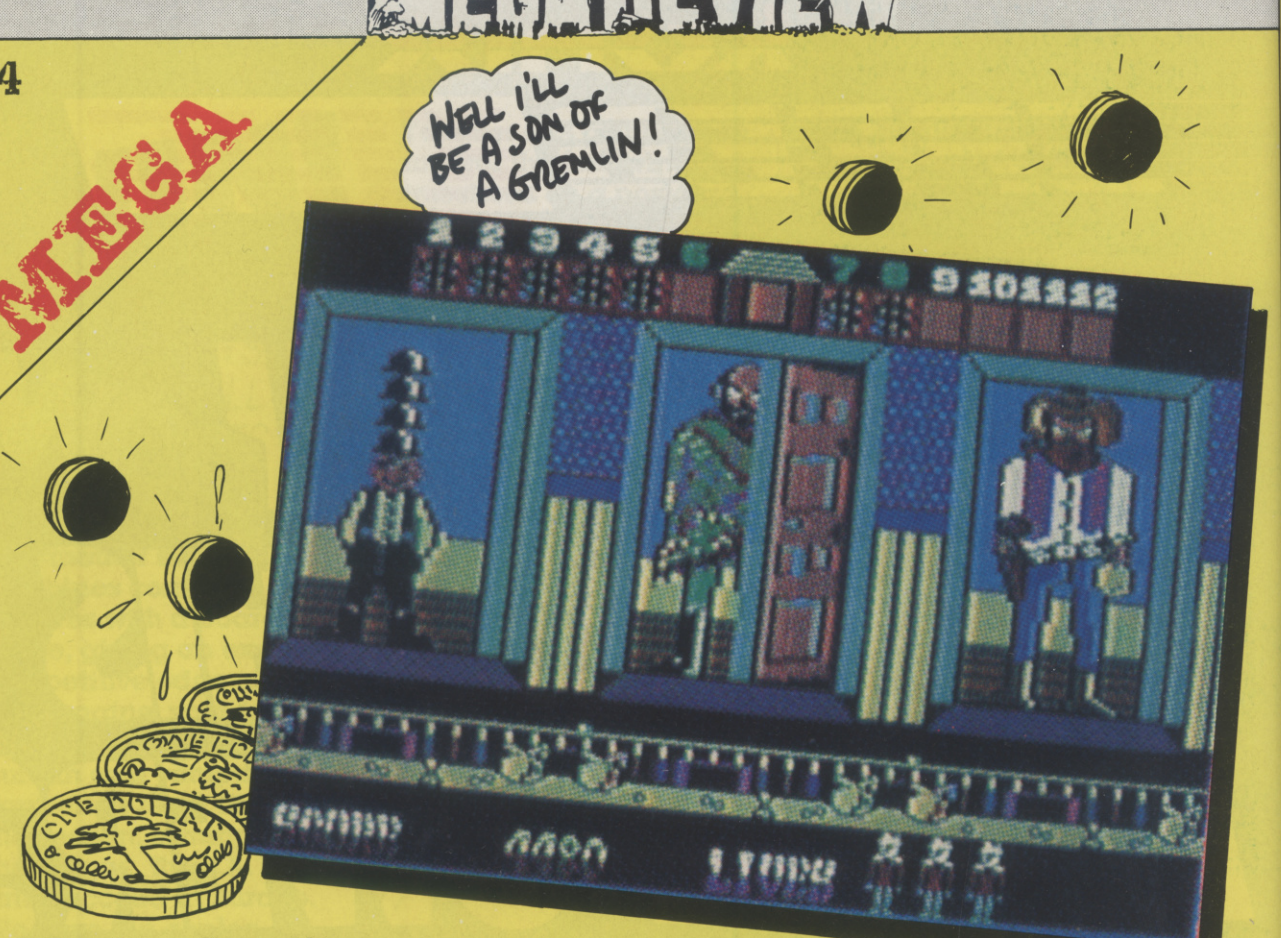
C64

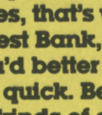
MEGA



WEST BANK

West Bank — Gremlin

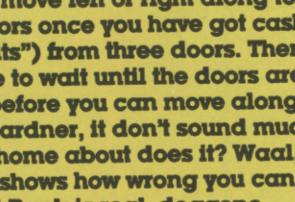
If you are going to have a shoot 'em up, Gremlin apparently says, then you might as well have the real thing! And what did the gun totin' cow punchers in the West have — in addition to a forty-five that is? Lightning reflexes, that's what! And if you take on West Bank, that's exactly what you'd better have or develop darned quick. Because there's only two kinds of ornery varmints in this wide open town — the quick and the dead! You better be the former or sure as rattlesnakes rattle you're going to be the latter.



According to the game plan — I never really worked out whether I was a goodies or a baddie (it's that kind of a game, short on words and long on action) your job is to get money out of 12 doors of West Bank. The days, of which there are two to each game are divided into 9 stages — the last two are at night and are sure as hell dangerous. Each time a door opens you have to shoot before somebody shoots you. But there are — as usual — some innocent bystanders around and you'd better not shoot them or you lose a life, and you only have three.

You can move left or right along to more doors once you have got cash ("deposits") from three doors. Then you have to wait until the doors are closed before you can move along.

Well pardner, it don't sound much to write home about does it? Waal, that jus' shows how wrong you can be. West Bank is real, doggone, knock-me-down fun. Once you pick up your ole forty-five you won't never want to let it go.



This smart little Gremlin shoot 'em up — and down — will keep you plugging away when all them city slicker so call ed so-phis-tee- cated games have gone to the great computer game trashcan in the sky. We sure took to it here at The Crooked CCI Ranch. You had to fight your way to the old-time 64 to get a turn. If you want a real good time, (and a neat little tune) purchase yourself one of these here West Banks at the General Store before some gunhappy outlaw comes along by and grabs them all.

One more thing before you gallop into town. At £4.99 West Bank's a low down price range. That's pretty near givin' away this little old megastar. Thankin' you real kindly, Sheriff Ian Stewart, you'll go down as one of the great heroes and benefactors of the West.

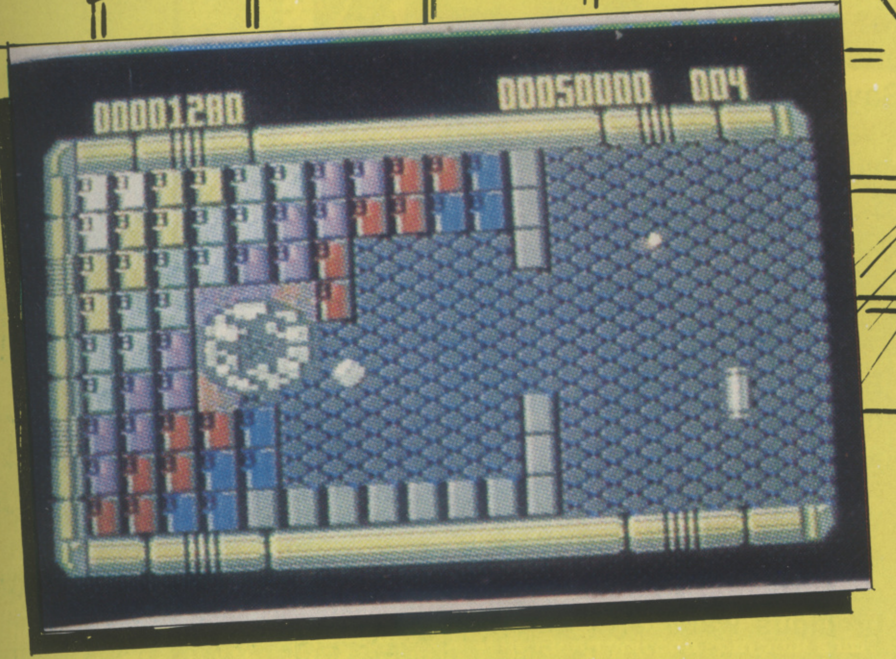
Z.S.

Price: £4.99
Graphics: ★★★★
Sound: ★★★
Playability: ★★★★★
CCI Rating: Mega

C64

CRISP

KRAKOUT



Krakout — Gremlin Graphics

I hate this game. I hate it. I hate it. Okay so its marvellous. I still hate it. Okay so I can't stop playing it. I still hate it. So what that it's a brilliant rip off of the arcade Breakout on which I've spent millions of pounds and made arcade owners rich. I still hate it, even if I can save the cash and play it at home now. Okay so it's even better than Breakout in some ways because smarty pants Gremlin has brought its programming power to bear and included things — on your side and against you — that the original Breakout never even thought of. I still hate it — and with a passion. Why? Because this infuriating games makes me feel helpless, it drives me crazy and makes my eyes go blurred because I've spent too many insane hours trying to blow away the enraging squares and get to the next level.

It makes my hands clutching the unresponsive joystick (sorry Konix, it's me I know not your terrific joystick) at least it feels unresponsive because Krackout seems to outthink and outfight me and outspeed and outbounce me. I haven't felt so clumsy since I couldn't do up my own shoe laces!

The moment the ball is bounced into the play area, it starts to hit the blocks and destroy them — and my nerves too. When it comes to shoving the bat (they call it a bat because that's what it drives you!) up and down to stop the ball bouncing off the screen, my hands no longer seem to possess their old cunning. Even when the blocks turn to silver and come on your side it is only a moment of relief. There are aliens buzzing around but at least they explode on contact with the ball. But some of them really turn on you and paralyse the bat or even eat the ball and gob it out at you. No, not nice at all.

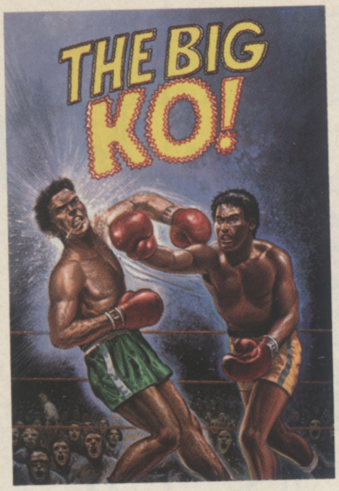
As I say I hate this game. It makes you want to play it again and again like a drug. There's even dual speed, to make it worse! It is simple and viciously addictive.

You can, it's true, change the speed at which your missiles are deflected so you've got almost infinite levels of gameplay.

On no account buy this game or you may turn into a human wreck like me. Sorry I can't write anymore I got to get back to the * * * * * * * * * Krackout, before I Krackup completely!

Z.S.

Price: £9.99 (c)
Graphics: ★★★
Sound: ★★★
Playability: ★★★★
CCI Rating: Crisp (Terribly)



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"The Best Boxing Game on a Computer" (Electron User)

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SAVAGE ISLAND
ONE

SAVAGE ISLAND
TWO

BATTLESTAR

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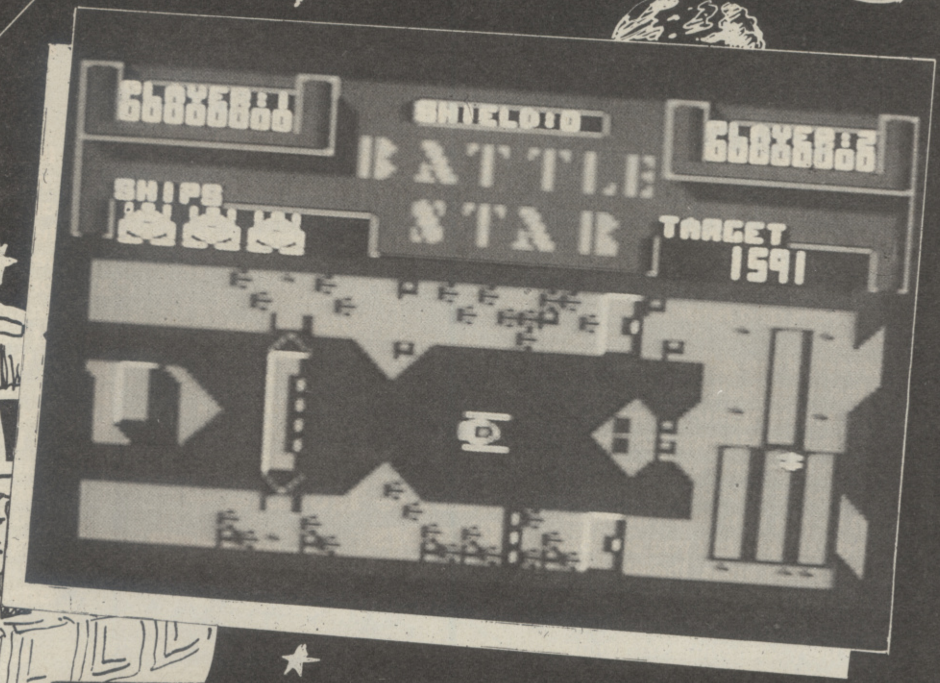
MEGAREVIEW

C16



Battle Star by Tynesoft

As I have said before, Tynesoft are producing amazingly good quality software for the C16 and now they seem just about to have cracked it.

This game, as Liberator (last issue), is a shoot 'em up with a Uridium flavour for added spice and zip. Saying this, the two games, Liberator and Battlestar, are quite different from each other — each having its good and bad points. If the two games could be mixed, an incredible game would be the result. But if one had to choose between the two I would have to go for Battlestar.

The object of the game is to zoom along this alien space ship, blasting pulse mines, shooting and dodging their bombs, and weaving around the protected encasements.

You may wonder why you have to do all this — so I'll tell you. You were on patrol over the planet Nuljai — which is made up mostly of water. When you come into contact with an alien construction ringing the whole of the planet, syphoning off the precious water. You must therefore destroy the pulse mines supplying the evil Cyfrobs (aliens) with the water. So there!

To do this, you have to fly down the alien construction and reach your target — the water encasement. As you fly along you can spin your ship to go through what would otherwise be impossible gaps. This proves its aerobatics are not just for show — though I must admit they do look flashy when flying at speed through small spaces, spinning and firing at the bombs coming towards you.

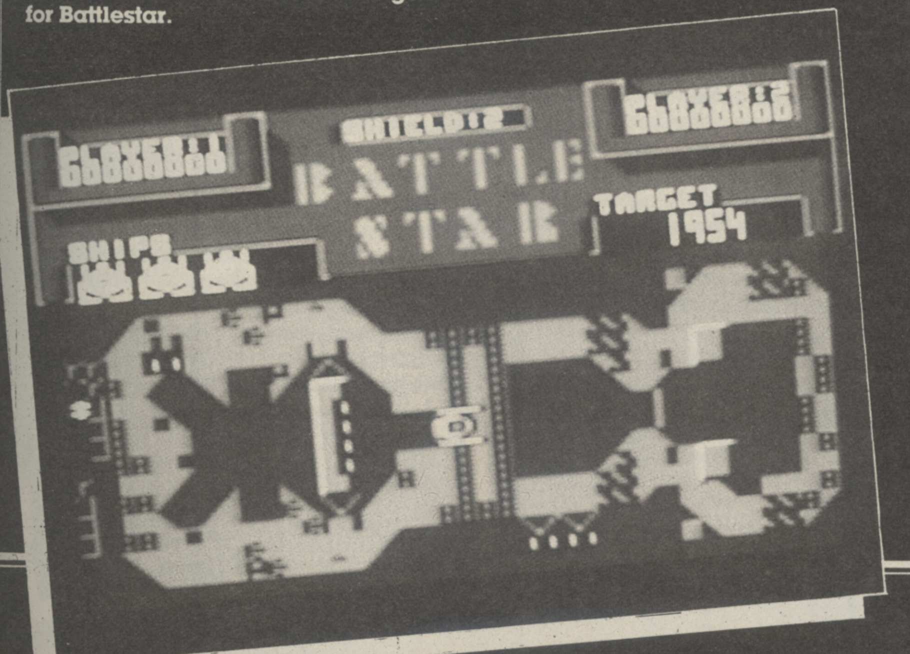
The graphics of the ship are not metallic — this disappointed me at first but now I realise no matter what the graphics of the background, the gameplay is brilliant. Your ship is pink (don't ask me why!) and I really think they should have made it another colour — but then that's only a personal preference.

There's a great music background that you can turn off or keep on — it's really good though, so keep it on!

Tynesoft, Gremlin and Anco are in the top league for C16 games — each producing quality games that always live up to expectations and rivalling each other, it seems, with somewhat similar games. I think though that it might take a long while before anyone produces a game to equal this.

Clive Courtney, Tynesoft's MD, tells us that their next game is a . . . oh-no . . . I don't think I should tell you, why don't you have a guess — I'll give you a clue — Glove! (What are you talking about? This is a computer not a puzzle magazine! Ed)

Price: £6.95
Graphics: ★★★★
Sounds: ★★★★
Playability: ★★★★
Rating: Mega



Megabolts — Mastertronic

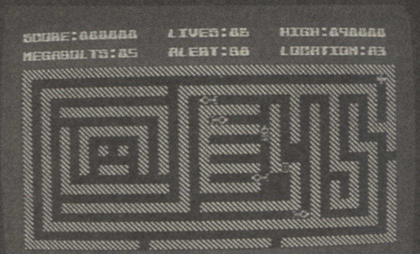
CRISP

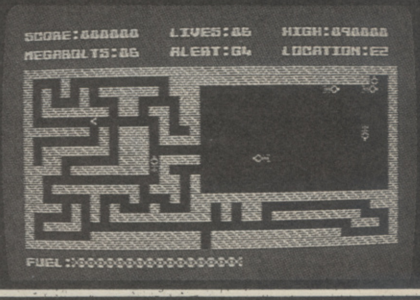
Megabolts is Pac Man, a shoot em up and Rockman all rolled into one. There are sixty four screens, nearly a million megabolts, time bombs, blocks and baddies everywhere.

The object of the game is to destroy the megabolts in all 64 locations. Mastertronic refuse to tell how to do this so I'll give the secret away, you either squash them between blocks (the Rockman element) or you can shoot them — this sounds simple but you can only blast their green ends, the other end is indestructible.

The megabolts are not pushovers though — they sometimes drop time bombs which you have to defuse by running over, there's nothing more frustrating than noticing a timebomb just before it goes off! To top up your fuel you use little orange objects — they take some tracking down though because they bounce all over the screen, almost it seems trying to avoid you. The yellow spinners on the other hand seem to be attracted to you, even though they are bad for your health. You can't shoot them but if you are in a lot of trouble you can sometimes shoot them and send them spinning away in the opposite direction.

The play area is laid out in a maze as an eight by eight grid — like in Battleships with A1 as top left and A8 as bottom right. This enables you to understand the alert messages which tell you where the remaining megabolts are. You can travel from one maze to another without having to kill everything in it — this is handy when you see a time bomb you can't defuse in time and are near an exit.


SCORE:000000 LIVES:05 HIGH:090000
MEGABOLTS:05 ALERT:A8 LOCATION:A3
FUEL:


SCORE:000000 LIVES:06 HIGH:090000
MEGABOLTS:06 ALERT:G4 LOCATION:E2
FUEL:

The graphics remind me of Squirm an old Mastertronic Pac Man game, but Megabolt really plays a lot better. This isn't one of Mastertronic's greatest releases but is good enough for under £2.

C.K.

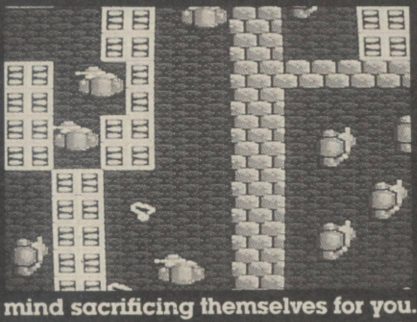
Price: £1.99
Graphics: ★★★
Sound: ★★
Playability: ★★★
Rating: Crisp

Bubble Trouble — Players

NAFF

Bubble Trouble is the kind of game you expected to buy a couple of years ago when C16 games were written in basic and you had to run them yourselves. It has terrible, terrible graphics, terrible sound and playability verging on nil.

You are a small bubble and you want to escape from the game — I mean bath. To do this you must grow in size. You grow by eating nine other little bubbles who don't mind sacrificing themselves for you. Nail brushes are out to get you and so are shampoo bottles which drop down onto your head without giving you a chance to dodge them. To get bonus points a bar of soap appears which you must eat. The game has minimal graphics and tooth grating sound. Some people might like it though as it's a budget game.



I personally think you might have more fun watching a bowl of fruit slowly decompose, without the aid of video equipment or even, if you are really masochistic and can't sleep, read "Your Commodore" (Who? Ed).

C.K.

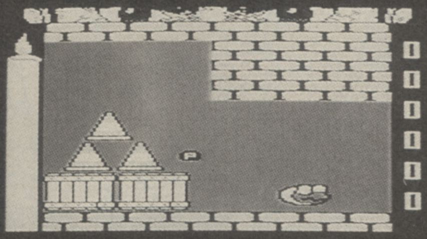
Price: £1.99
Graphics: ★★
Sound: ★
Playability: ★★
CCI Rating: Naff

Future Shock — Tynesoft

CRISP

I don't remember if Tynesoft has made an arcade adventure before and if this is their first try it is not half bad at all. It is based on a really clever idea that is, like all brilliant novelties, so simple you wonder why it hasn't been thought of before.

You are Glob and you have been chosen by the Supreme Being to search human memory for the Scroll of Evolution, so that humans can get back on the path of evolution (some I know have definitely left it. Ed). So you leave off the exploration of an empty beer bottle and get going on your rather higher level style adventure.



This is the introduction to Future Shock, a slick but simple game. I like it very much but if it had a little more depth it could have been even more demanding and so keep you longer at it.

The game is set out in the human head and there are a pair of human eyes at the top of the screen which stare at you penetratingly. You move from left to right and magnetic and repulsing forces come into play as you move around. You must work out which room to enter and when so that you can complete your journey. For instance on the third screen you get pulled upwards and have a choice of directions. If you choose the wrong one you'll most probably end up stuck with the rat and have to start again.

The graphics are great and are very large. The sound though isn't too good. But that is usual for adventure games which no-one seems to think need sound at all.

A good game that with a little more care could have been great. It seems a little highly priced but Tynesoft always give value for money.

C.K.

Price: £5.95
Graphics: ★★★★
Playability: ★★★
CCI Rating: Crisp

5-STAR GAMES

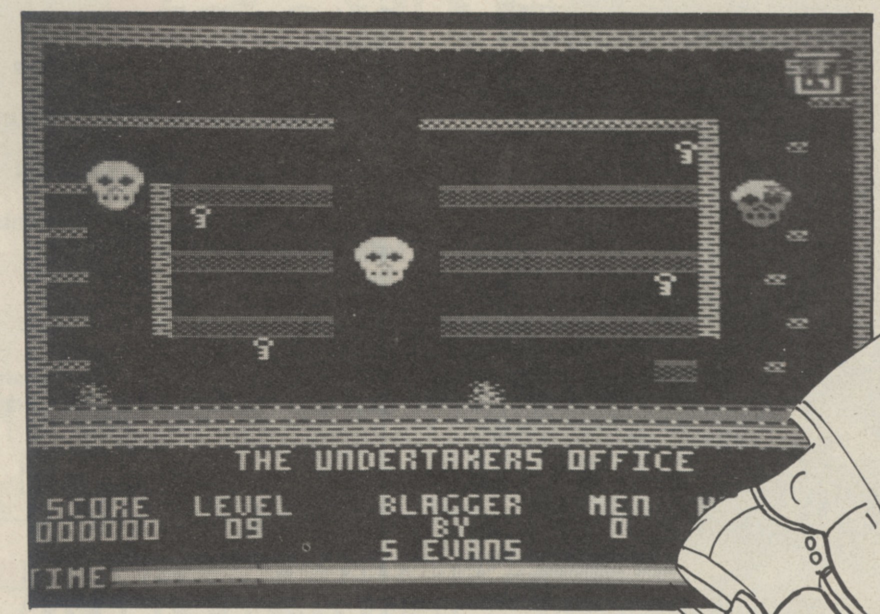
Five Star Games — Beau Jolly

Five Star Games by Beau Jolly is a compilation of games which are among the oldest available for the C16. They might have made a mistake in releasing them together, for it is likely you already have at least three of these games. This isn't knocking the games though for they have aged very well and could still sell profitably today — especially Tom Thumb.

The compilation starts off with Defence 16, it is — as you might have guessed — a defender-type game where you fly horizontally across the screen blasting the hell out of everything in sight. On the first level there's not that much to blast thought so you find yourself waiting for the aliens to swarm around you before letting rip. There are nine level, three of which I can get to, and about five types of aliens including cannon fodder, mutators, the mine layers and the pods, which split into two when shot and chase after you. The real problem with this game is the method of control — your hands are splayed over seven — yes seven — keys . . . awkward isn't the word!

The next game is the classic Tom Thumb — an incredible arcade adventure from Anco. It involves you, Tom Thumb scurrying around the tomb of the pharaoh Manilo in search of a fabulous treasure. On you search until you encounter spiders, devils and other types of nasties. There's one particular little nasty that hangs around the edges of the screen and runs away, but as you get further into the game it runs at you very unpleasantly indeed, destroying your composure and very likely getting you killed. The graphics are excellent as is the sound — in a separate review as a budget game this would have got an awesome rating. Maybe Anco could do that yet.

Blagger is the next game on the tape and is an above average platform game — I've reviewed it in another compilation and most of you know about it so I won't go into any detail about it. It's just a good 1 &p game and is quite enjoyable to play.



Pogo Pete is a young boy helping to make an adventure playground. He goes around on his pogo stick and makes the obstacles safe for the children by placing a tile in a certain place. When it's in the correct place he does a big bounce for joy and must go across the screen from left to right without touching the ground. When this is done you progress to the next level where things get a little harder. An enjoyable game that is better than first appearances.

A PRETTY GOOD COMPILATION! CK.

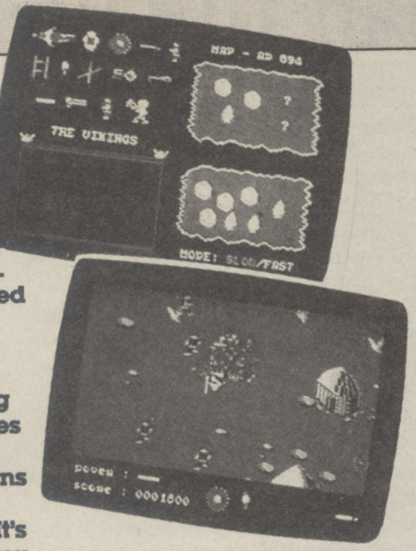
Ghost Town, boast Anirog, is a graphic aventure with nineteen hi-res screens — wow! that's impressive isn't it! The story goes like this . . . Long ago Belegro the wizard turned a town into a ghost town, then took all its treasures and stored them away. You must go from room to room solving the clues on the way, only it's not a matter of solving clues, just pot luck. There's not much to this game really, if you're buying this compilation buy it on the standard of the other games not this one.

A pretty good compilation, not really in the class of Gremlin's but certainly worth buying.

C.K.

Price: £9.95
Graphics: ★★★
Sound: ★★
Playability: ★★★★
CCI Rating: Crisp

Vikings — Status Software



This is a simple game that is reminiscent of many, 'keep on shooting' style games since the history of computer games began. You have a neat little viking shaped chap whom you have to guide along, around trees, bushes, thatched huts and the like. Of course your have to keep avoiding the usual arrows and other missiles that will blow you away if you are not quick enough. It is by no means an easy game as the missile throwers are numerous and fast. It's also got plenty of levels to keep you going. You have to attack two islands — Britain — believe it or not! This game was written in Scandinavia where the original vikings came from. Fortunately, their games writing talents are better than their geography! The rather repetitive tune is by W.E. Music.

Personal Rating: 5
Value for money: 5
Price: £9.95

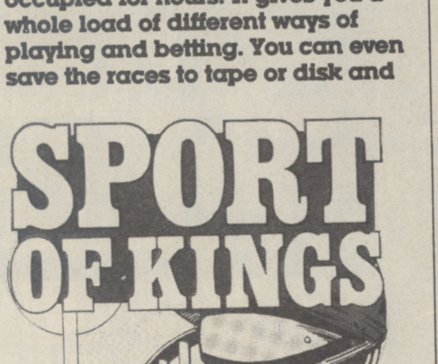
Terminator — The Power House

Terminator has the familiar scrolling to right or left, keep your finger on the fire button and blast everything you see. You have got seventeen planets to destroy and nasty looking and destructive craft keep coming at you to burn you out of the sky. You have to be quick and smooth in your actions and it is easy to lose your lives in short order. If you haven't played this type of game before (is there anyone?) it is certainly worth a try. If you have and want something new then this is probably not for you. It was programmed by 19 year old Gavin Raeburn who might just be a games programmer to watch. (Maybe his next . . . I, Robot.)

Personal Rating: 4
Value for money: 6
Price: £1.99

Sport of Kings — Mastertronic

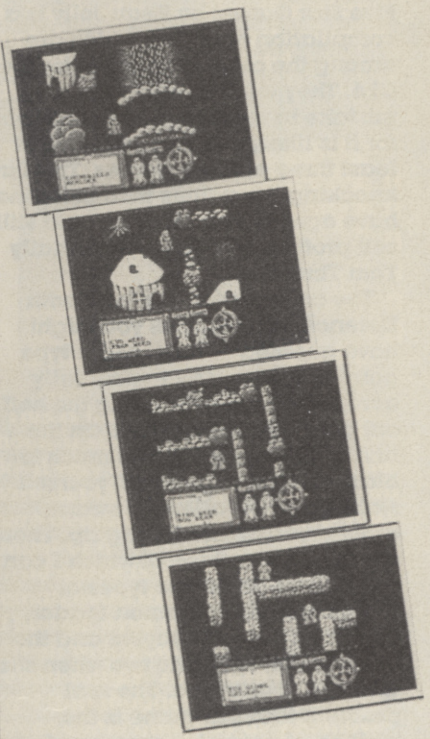
This is a game for the more peaceloving amongst us. No shooting, no lost lives. No Nasties blowing you out of the sky. Wow! Something different, and there can be no doubt, it is a very well-programmed piece of software. If you know nothing about horse-racing (the sport of kings) then this will not stop you enjoying this betting game. If you are a keen betting person, it will keep you occupied for hours. It gives you a whole load of different ways of playing and betting. You can even save the races to tape or disk and print them out if you need results to back up the screen ones. That could be useful if you use this as a real party betting game. Mastertronic have got a winner here.



Personal Rating: 7
Value for money: 9
Price: £2.99

Feud — Mastertronic

Now and again Mastertronic among the plethora of games that pour out of their hive of buzzing programmers comes up with something special. That touch of games magic. They seem to have done it with Feud on their Bulldog label. This could easily be a full price say £9.95 game and no-one would feel done. You play some kind of medieval monk and you chase about grabbing at herbs and mixing spells. You are competing with another wizard Leanoric who is doing the same to do you down. You have a cauldron where you mix your spells. Even controlling the spells isn't easy. In fact nothing is in this game. It will keep you at it long after the usual shoot 'em up will have hit the dustbin. You will find that the more you chase around and the more spells you can accumulate the more fun this game is. It think Feud may turn out to be one of the most popular games that Mastertronic brings out this year — and that means one of the most popular anybody brings out. Go and buy Feud, you can't fail to love it.



Personal Rating: 8
Value for money: 10
Price: £2.99

Nº1

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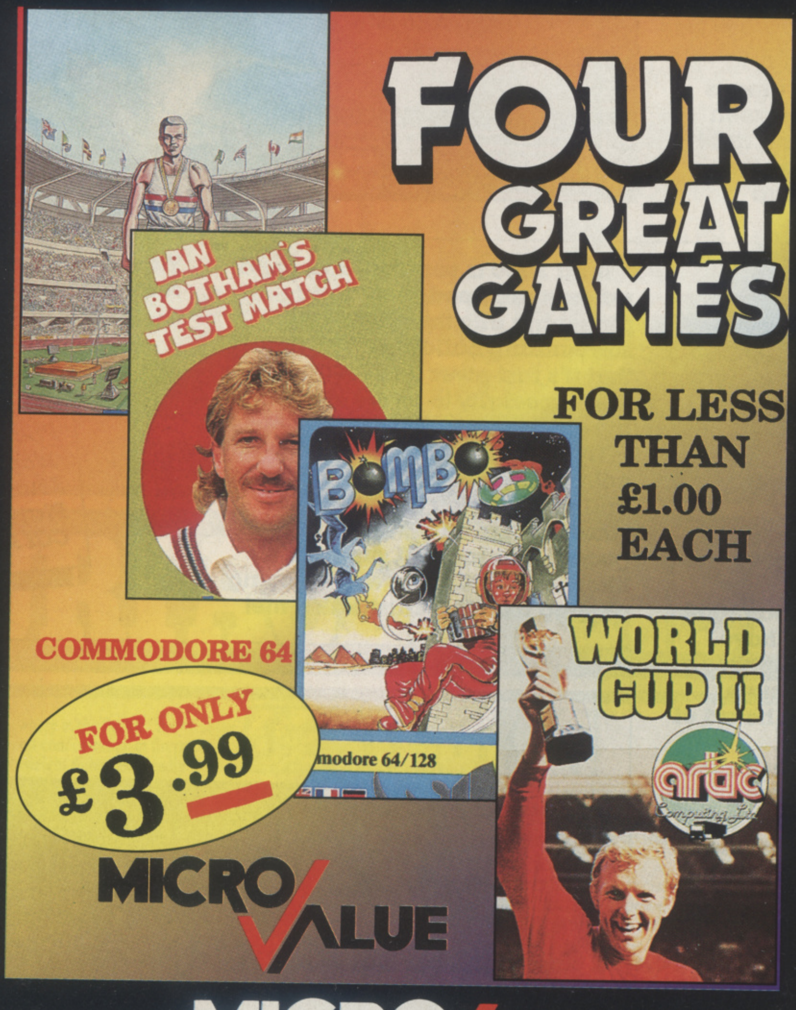
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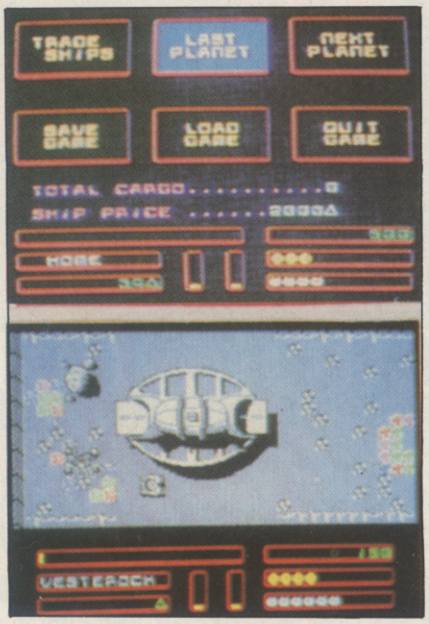
Agent Orange — A'n'F

CRISP

When you were small and you saw on the TV those planes that used to spray the farmers crops with insecticide? Did you ever want to have a go? Well in Agent Orange, A'n'F put you in the driving or rather pilot seat. Instead of killing weeds on Earth you are assigned to kill weeds on an inter-galactic space-station. (Intergalactic weeds? If you believe that you'll believe anything! Ed.). You are also out to find that elusive inter-galactic weedkiller, called 'Agent Orange' (wasn't it really used to kill everything in Vietnam?)

Your view of the playing area is like that of a bird and the screen scrolls from left to right (and right to left). A'n'F have combined the 'fly left and right and pick up things' with a shoot-em-up quite well. You must fly around picking up little red blocks and also destroying any alien craft. When you destroy any craft it leaves behind a small barrel shaped object. When you've managed to destroy all the alien craft on the present planet and collected as many red blocks as possible you can then fly back to your HQ and then move onto the next planet and further search for Agent Orange.



The graphics on the planet are quite good and the space-station is very effective. The slight 3D effect also works well. The spaceship is well detailed and moves smoothly. An interesting little package from A'n'F.

J.A.

Price: £9.95
Graphics: ★★★
Sound: ★★
Playability: ★★★
CCI Rating: Crisp

Raid 2000 — Mirrorsoft

CRISP

Mirrorsoft have done it again, yet another slick and stylish, somewhat original release, that will sell well amongst shoot-em-up fans.

Earth has reached the year 2000 and many alien life forms have heard about Earth's well-being. There is one particularly tough bunch out there that we've heard of and they are the Xanthids.

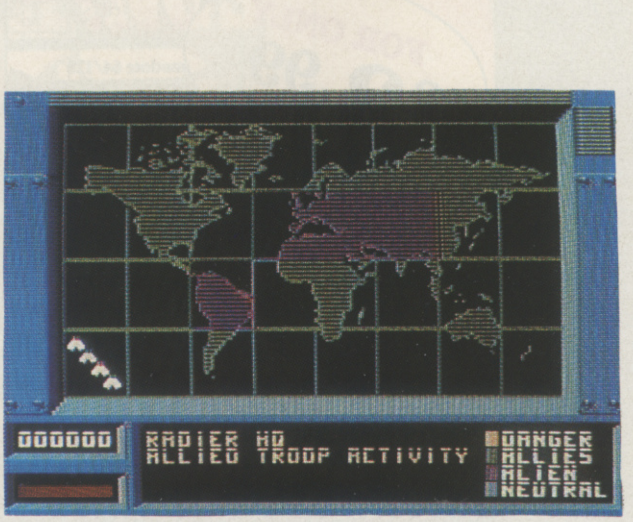
These nasty pieces of work need Earth's special oxygen-carbon dioxide atmosphere to make the chlorophyl that keeps 'em going. And guess what? They are coming to take over Earth! You've been assigned four hypojets to get out there and get 'em. You get a view of the world map, much like the one used in Hacker. The purple sections are those that are already alien controlled. Those areas which are green are allied controlled but they will soon be invaded. The alien controlled sector you choose will then appear on screen. You get a birds eye view of the planet-surface and it's like that of a space-station. The landscape reminds me very much of the one used in "V".

Raid 2000 is very fast and good reflexes are needed to avoid ploughing into the aliens or surrounding buildings. The fact that it's fast gives Raid 2000 a long life, especially to lovers of crash bang bang arcade/shoot-em-ups.

The graphics are reasonable but nothing stunning. They are smooth and they do their job well. The sound is also acceptable, but quite good for Mirrorsoft I suppose. I liked Raid 2000 and was enjoying playing it until it crashed on me! Was that a hint to get on with the review and stop enjoying myself?

J.A.

Price: £9.95
Graphics: ★★★
Sound: ★★
Playability: ★★★
CCI Rating: Crisp



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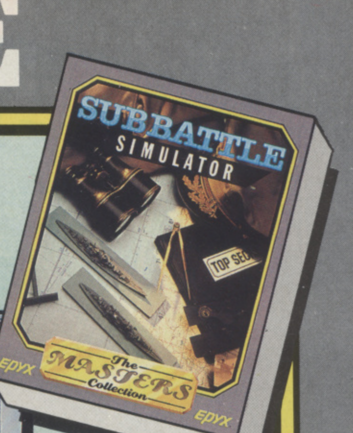
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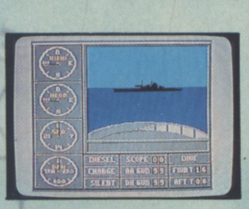
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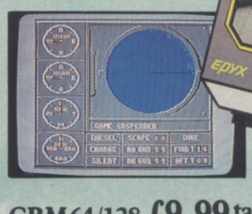
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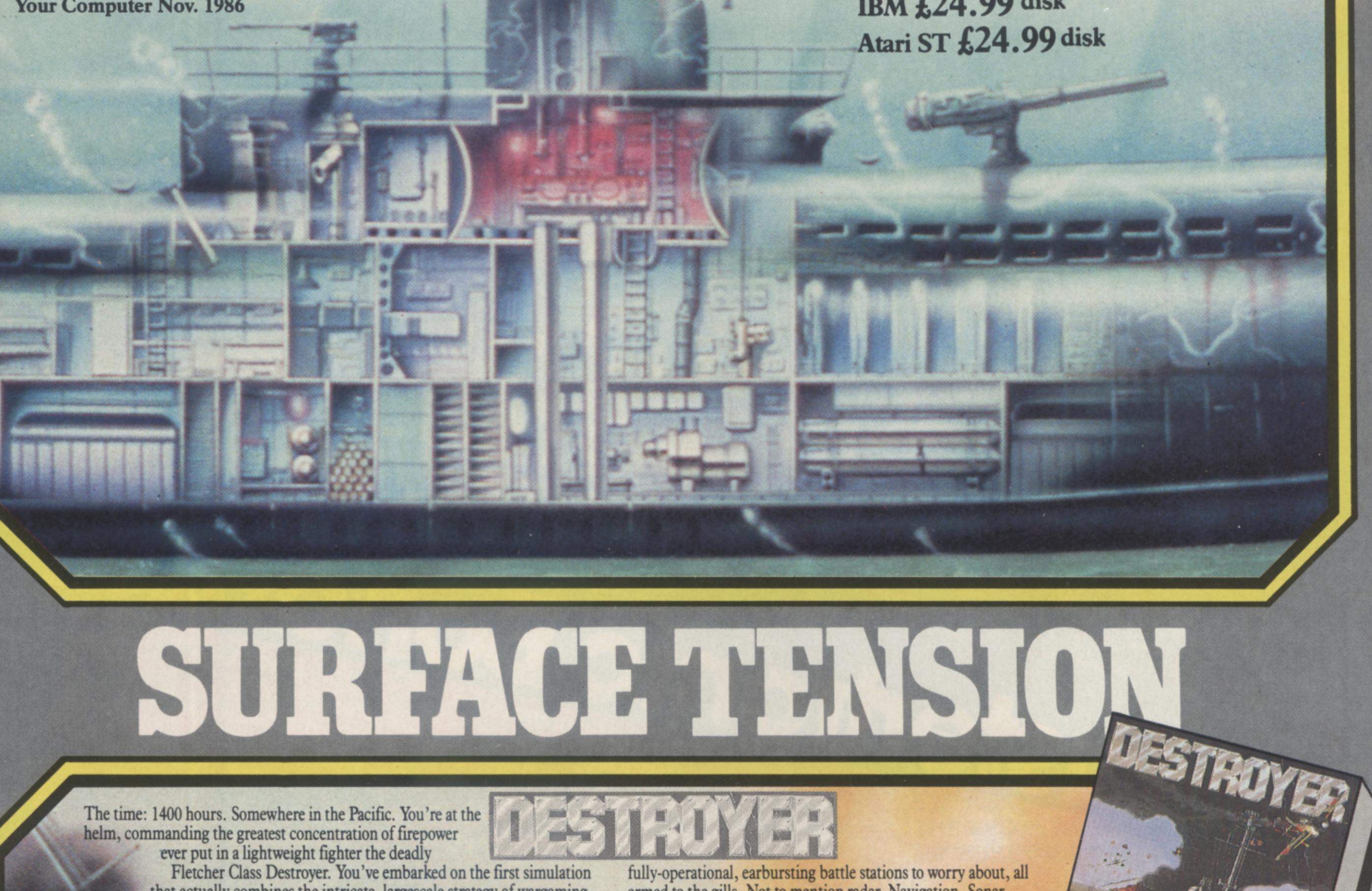

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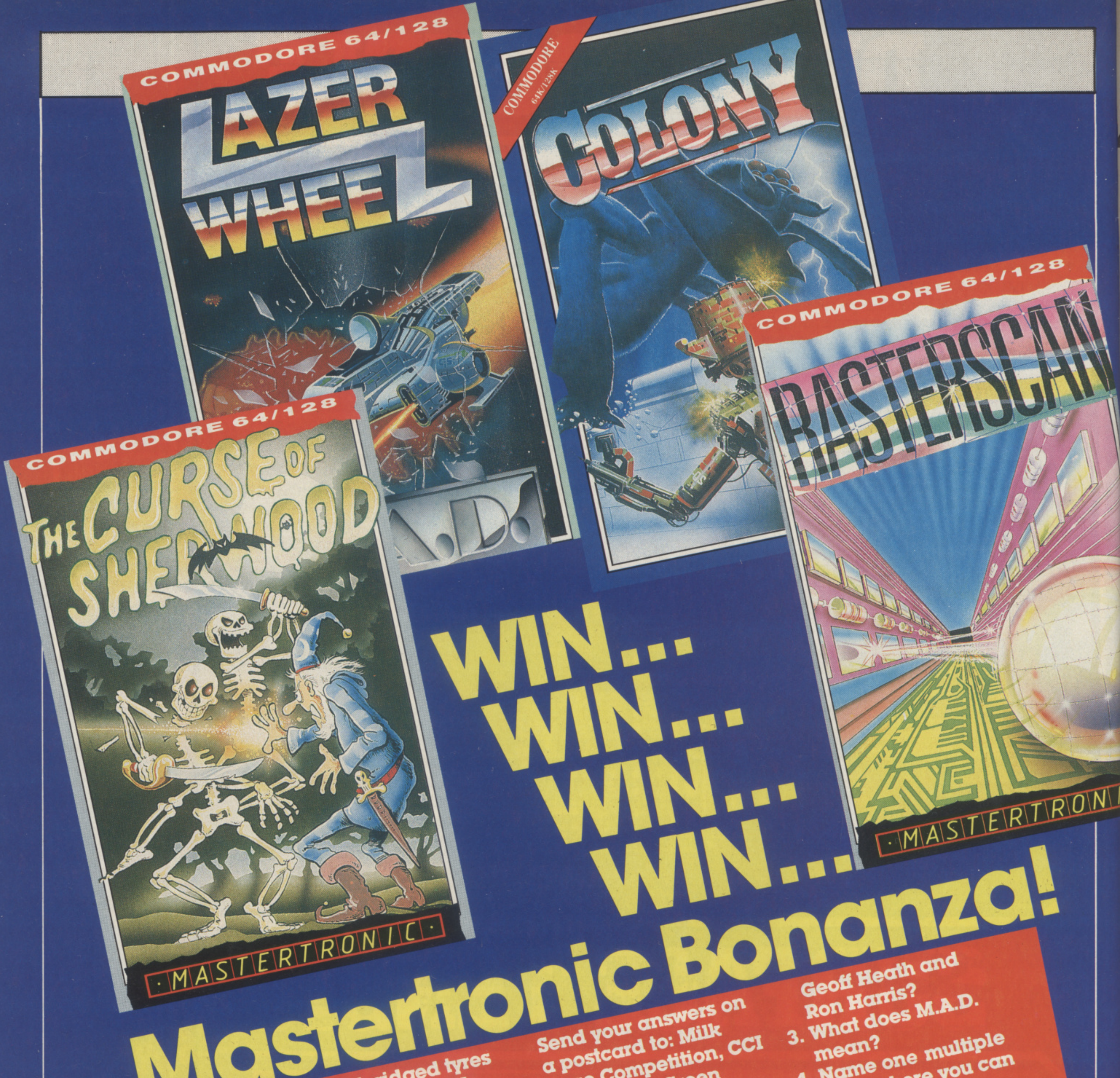

WIN... WIN... WIN... WIN...

Mastertronic Bonanza!

There are HUNDREDS of prizes to be won this month in one of the biggest competitions CCI has ever held.

To celebrate the launch of their MILK RACE game, Mastertronic are offering a Raleigh racing bike as the top prize and a copy of the game. The Vektar is a revolution in riding, with features including built in propstand, a facility console to allow you to upgrade to the Vektar electronic, a three speed rocket gearshift and high ridged tyres with side tread. (We hope you know what that all means!) Fifty runners up will receive a copy of the Milk Race game.

To enter the competition, simply answer the questions below:

1. Name two different kinds of bikes made by Raleigh
2. Where does the U.K. Milk Race start and finish?
3. Why is the Milk Race call the Milk Race?
4. What is a cycle with one wheel called?
5. Name one BMX Bike magazine.

First all correct out of the comp sack...

Send your answers on a postcard to: Milk Race Competition, CCI 40 Bowling Green Lane, London EC1R to reach us by June 15th.

Also on offer...
We have FOUR HUNDRED copies of Mastertronic games to be won... 100 copies of "The Curse of Sherwood", 100 copies of "Rasterscan", 100 copies of "Laser Wheels" and 100 copies of "Colony". To win one copy of each of these games, answer the questions below and get that entry in the postbox!

1. Name the three founders of Mastertronic.
2. What were the previous jobs of Geoff Heath and Ron Harris?
3. What does M.A.D. mean?
4. Name one multiple store where you can buy Mastertronic games.
5. Who is the favourite "Vamp of the Computer Press"?

First *100* out of the Comp Sack!

Send your answers on a postcard to:
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Closing Date June 15th

Note: games are available on cassette only and for C64/128.

C128 and C64 Compatibility

Having bought the latest piece of mega-software to proclaim itself 'C128/C64 Compatible', and rushed home in eagerness to load it into the C128, it comes as something of a disappointment when the program in question will inevitably only run on the C128 when it's in 64 mode. Much as I admire the quaintness of the command GO 64 (why no GO Z80, eh?), it seems a shame that relatively few purveyors of software make any great use of the extra memory that the C128 has on board.

The intention of this article is to take a short program that will run on the C128, the Commodore 64 and the C128 in 64 mode, without any major alterations (and no, it isn't written in BASIC), whilst taking a brief look at some of the similarities and difference between the two machines.

The program in question was written because I wanted a routine that would instantly change the colour of all text display on the screen. I emphasise the 'instantly', because the line of BASIC to do the job:

```
FOR I= 55296 TO   56295:POKE I,
COL:NEXT
```

takes a very long time, as the following demonstration shows:

```
10 PRINT "(CLR)"
20 FOR I 5 1024 TO 2023:POKE I,
65:NEXT
30 FOR I = 55296 TO 56295:POKE
I,0:NEXT
```

Both the above snippets will run on C128s and C64s, by the way. To achieve the same results in machine codes, but of course performing the action in a fraction of the time, a small (43 byte) routine was written. On the 64 I stored the routine in the spare 4K block of memory starting at $C000, but of course on the C128 this is still part of BASIC, and the C128 doesn't like machine code programs being stored in memory willy-nilly. It wants somewhere safe for them, and in the end I opted for a much lower position in memory, starting at location $C0900.

All very well, but how to determine whether the program has loaded into a C128 or a C64? Easy. The two machines do not store BASIC programs in the same way: the C64 has its programs starting memory at $0800, or 2048 in decimal, whereas the C128 starts off at $1C00, or 7168 in decimal. So, the first lines of a small BASIC loader program could be something like this:

```
10 A=PEEK(7171):IF A<>10 THEN 100
:REM I'M A 64
20 REM OTHERWISE I'M A C128
30 REM CARRY ON TO LOAD ROUTINE
:
:
100 REM LOAD ROUTINE FOR C64
:
```

PEEK(7171) is checked, because when this program is loaded into a C128 it will contain the value 10, 10 being the first line number and 7171 being the part of the C128's memory that stores the line number. If it is loaded into the C64, then 7171 will NOT (unless there is some extraordinary coincidence) contain a 10, The loading routines themselves could then be added to the main body of the program.

```
40 B=2304:FOR I = 0 TO 42:READ A:
POKE B+I,A:NEXT
50 REM CARRY ON WITH C128 PART
OF PROGRAM
:
:
110 B=49152:FOR I = 0 TO 42:READ
A:POKE B+I;A:NEXT
120 REM CARRY ON WITH C64 PART
OF PROGRAM
```

As we have now defined our variable B, the program will know from now on whether it is running on a C64 or a C128, and can be handled accordingly. The data for the routine looks like this:

```
1000 DATA 169,0,162,0,157,0,216,232,
224,255,208,248,162,0
1010 DATA 157,255,216,232,224,255,
208,248,162,0,157,254
1020 DATA 217,232,224,255,208,248,
162,0,157,253,218,232
1030 DATA 224,252,208,248,96
```

The data for both the C128 and C64 in identical, it is only the position in memory that alters from machine to machine.

To actually use the routine in a program, a few lines of code like this will do the job:

```
500F=F+1:IF F=16 THEN F=0:REM F
DENOTES COLOUR
502 POKE B+1,F=SYS B:IF B=2304
THEN POKE 241,F:RETURN
504 POKE 646,F:RETURN
```

The last two lines take care of the colour of the character under the cursor. As this was meant to be part of a longer input subroutine (hence the RETURN statements), the cursor colour had to be changed as well as the colour of all the text displayed. Otherwise, anything typed after the text had been altered would still be in the same old colour, and produce a very strange display.

Fortunately for us, changing the colour of either the background or the border on both machines is identical, namely:

```
POKE 53280,COL for the border, and
POKE 53281,COL for the background
```

A rare degree of similarity between the two! Note that the machine code

CONTINUED ON PAGE 72

Is it a bird? Is it a plane? No, it's SUPER FELIX! You, stop pulth

Anco Paradise Escapades

Strange goings on at Anco? This is a secret photo we have obtained of a normal day at 'Paradise' the headquarters of the ever more powerful Anco empire.

Centre is, in her usual working clothes, the internationally famous 'Miss European Safety Year' Karen of Anco. Apparently her seductive charms dragged Dracula up out of the ancient dust-covered Anirog archives. However, because of the attention and crowds she everywhere creates, she was immediately arrested by what the world's newspapers described as a 'Midas Police Cadet' whatever that might be. The whole jet set style scandal, which drove the Jerry Hall/Mick Jagger drugs affair off the front pages, was all too much for Anco's international businessman supremo Anil 'Abstinence and Chastity are Anco's Motto' Gupta. He flew off to India in his private 737 'Turbo Plus' for a much needed rest from Anco's meteoric progress. Mr Gupta who is regarded in India as a man of great power and holiness is believed to be spending a period of 30 days fasting and meditating at his Taj Majal winter palace to give him renewed spiritual strength to fuel his new onslaught on the world computer market. By the way, I beg you not to send any more proposals of marriage for the delectable Karen to me, my basket was buried for weeks! Please send them to Karen of Anco c/o His Holiness Anil Gupta, Taj Majal, India. Peace and Paradise be with you all or, as Mr Gupta might say; Namaste.!

NAMASTE!
HIC!
SUPER FELIX

Eating His Art Out

"If Paul Simon calls tell him I'll call back" said Major Billy ('Hanging's too good for anyone who doesn't love nuclear warfare') Brown, star ad-man at CCI Tower. Aha! we said, who can he be referring to? With the help of the Sherlock Pinkerton 'Tec agency we have rooted out Major Billy's dark secret. 'Billy Brown' indeed! He is really Art Garfunkel, singing star of 70's duo Simon and Garfunkel Sound of Silence-stop-talking-and-get-on-with-lovemaking-The-Graduate-Mrs-Robinson-Scarborough-Fair und so weiter. When charged with his double identity guise the fake Major Billy came clean and confessed to being a billionaire with all the Garfunkel cash stashed away in Swiss and West Hampstead banks. And since the breakup of the S & G duo, Art (Billy Brown) G of course had a chart hit with 'Bright Eyes', theme from 'Watership Down', a film about sickeningly cutesy-pie rabbits. Major Billy-Art got back into my list of favourite people when he told me that in addition to making the record 'I read the book, saw the film and ate the cast' Attaboy Major Billy. Now that they've busted Colonel (Death is too good for those Nicaraguan Commies) Oliver North, they need Rambos like you in the White House.

I've also heard that somehow the KGB has been intercepting Major Billy's mail. I believe they think Major Billy-Art's singing of Bridge over Troubled Waters is connected with Reagan's Star Wars. It's what his neighbours have told them.

Berk 'n' Dare

"Berks is the follow-up to the Berks Trilogy, you must destroy the Berks before they destroy you." — something that is becoming more and more difficult all the time if Our Sacred Editor's view of the world is correct and what I am told as to the meaning of "Berk" is true. That apparently innocent statement about 'Berks' games was made by The Power House who are obviously not a games software company at all but secretly some kind of subversive political organization (Mrs Whitehouse and other moral reformers please note). For I've been confidentially informed by the eminent linguist Professor Lepski of Kings College, London University that the word "Berk" is a very rude word indeed in Yiddish, Kwazulu, Trobriandese and many other languages commonly used by computer users. When Prof. Lepski told me of the real meaning of this dirty word I was utterly shocked to think that luscious Lesley Headlines has let it pass her lips and is so intimately involved with an organization that uses such censurable expletives. The meaning? All I can bring myself to say is that "Berk" is very much a four letter word that I'm sure you would never say to your mummy. (Keep my mummy out of this obscene business! Ed) If you really want to know what the shlocking — sorry shocking — word means, I suggest you write and ask Madamoiselle Les Head-

Glad ser hun ud, Jane Denning, marketingschef. Og som Melbourne House går, er der vist ikke grund til andet!

Glad ser hun ud indeed!

Melbournatronic House's Marketing 'chef' Jane Denning who is known for her cordon bleu cuisine (the main reason Mastertronic paid £1.99 million for Melbourne House) appeared as a star of the Scandinavian Foodies Magazine Uafhaegigt Commodore Computer ('Commodore Computer Cooking'). "Glad ser hun du," as everyone knows, translates as 'Jane Denning is a very tasty dish indeed!'

pull that paper bag over your head! He knows who you are! And why!

lines, Filthy Words Department, The Power House, 9 King's Yard, Carpenters Road, London E15 2HD. I'm sure she'll be happy to explain or give you advice on any other personal problem you might have. As Prof Lepski commented, "Whoever named that game must be a shmock!" But wouldn't tell me what "shmock" meant. You'd better ask the daring Lesley that too.

The Plot Sickens!

And who is going to believe it was a coincidence that the fabulously wealthy Sir Graham Bulldog d'Oysterville was sharing the same hotel as beauteous star of stage ('Blood Sweat and Peers') and TV ('Truckers') Gillian Tomkins in exotic Tenerife recently? Max the Ad's 'great and good friend' claims she didn't know the Cassanova of East Anglia was going there. Is that why Max the Ad exiled himself to the Middle East to join the Foreign Legion or a Kibbutz whichever was more expensive? Oh dear and what will Lady Janet d'Oysterville ('The Joan Collins of North Hereford') make of such goings on? No wonder CCI Tower looks more and more like the set of 'Dallas' these days!

Every Night Another Good Deed

One of the most intriguing questions that has been put to me by millions of avid CCI readers this year is not "whatever happened to Baby Jane?" but "whatever happened to Sister Jane?" — The Reverend Sister Jane Smith of Argus Software, that is. This very lovely and holy lady's evolving vision of the often sad and sadly debauched planet on which we are forced to live clearly fascinated masses of CCI readers anxious to keep closely in touch with the one shining light of dewy innocence among the depraved fleshpots of the computer world. Last heard of in these unworthy columns, the Divine Jane was about to give a massage (or was it a fashion show?) at the Vatican in her truly amazing rubber or (was it black leather?) habit. Well, your own Super Felix can exclusively reveal that not only has the Holy Sister moved on to become British Telecom's Computer Games Overseas Spiritual Advisor but that under the pseudonym of Anny Birdass she has been appointed to manage the publicity for the UK government's campaign against a certain disease that my editor will not tell me about. I have heard that you can only catch it if you play computer games of a most unhealthy kind and if you don't live in what I believe is called a condominium. I believe the disease is named 'Ignorance' because all the posters are telling me not to die of it. Why, I hear you cry, should such a spiritual person involve herself in such a nastily bodily affair (no relation). The answer is that Sister Jane has for sometime been conducted personally with all her well-known vigourous enthusiasm deep research into the preferences and proclivities of young men, particularly very young whom she felt needed special care. She has sought to discover just what the young male really wants. So successful has she been in this enterprise that no-one is today more expert on the wishes, needs, desires, size (height, weight etc), stamina and so on, of what is her motherly way, she calls 'my toy boys'.

She is reported as saying to Mrs P.M. ('Thanks for the 2 millionth 64') Thatcher, 'Every night I go down on my knees and use all my spiritual strength to help these poor boys'. I am sure her prayers to St Kondom of Kensington will always be answered. More power to your holy elbow etc, Sister Jane.

I THINK PEOPLE SHOULD STOP KNOCKING CRL...
BALLBREAKER WASN'T SUCH A DISASTER — WAS IT??

CBM's Sporting Chance

Answer the next quesnon and you may win £2.5 million! That got you interested didn't it, you greedy little thing you. How much does CBM love sport — particularly football? I bet, unless you sprechen Deutsch, you don't know that answer! Well, I will tell you. In west Germany, CBM spends 5 million forints sorry £2.5 million a year on sponsoring the famous Bayern Munich football team (who? Ed). The CBM logotype (mit a Cherman akcent, of course) is tatooed on the hairy chests of those yodelling, Bavarian leather-shorted football spielers who dominate the stadiums of Europe since the international authorities kicked out the English football clubs for killing only a few hundred Belgian spectators who were annoying the English by deliberately watching the match. Now however, your loving Super Felix has obtained a secret CBM memo that tells that Commodore is getting tired of sponsoring so quiet and peaceful a sport as football and is looking for something really useful to spend its money on. Under serious consideration are Niagra tightrope walking, water sking in the Sahara, snailjumping, Roller Cricket and Basic Programming Races.

If you would like to express a preference for what CBM does with your money, have any other ideas or would like to contribute cash, please write to Ms Katie ("PC1? There's no such thing.") Veats, Harvard College of Marketing, Westchester, Transylvania. P.R. I.O.U.1. On second thoughts, perhaps you'd better send the cash directly to me (American Express very welcome.) Katie's so rich she never banks any cheque less than a million forints (what the hell is a florint anyway?) (I thought you'd never ask! Ed)

SEX LESSONS AT SCHOOL? APPLY TO MISS NICHOLSON OF EASTBOURNE SHE'LL PUT YOU RIGHT!

PERSONAL MESSAGE FOR A FRIEND? — THIS SPACE FOR RENT!
MY CAT BASKET NEEDS A NEW
FLUFFY LINING!!!

CONTINUED FROM P 69

routine was given in the form of a BASIC loader, not a disassembly. This is not only to allow non-machine code programmers to use it, But also because the LOAD "prog name",8,1 command to load a machine code program into the point of memory from which it was originally saved involves more programming. Laziness rules. Even a straightforward LOAD "prog name", 9 is a bit awkward because, as we have seen, BASIC starts in different places on the two machines.

So that is one way in which a program can be made to run on either the C128 or the C64, depending on which one it happened to be loaded into. Having determined which machine a program is resident in, various routines can then be called up to take advantage of the extra memory, or not, as the case may be.

There's more?

Having said at the start that we'd also be taking a look at some of the similarities and differences between the two machines, the POKE described earlier to change the colour of the text underneath the cursor is a good example. Location 646 handles this on the 64, whereas 241 does the job on the C128. Commodore, as usual, decided to confuse us all when they produced the latter machine, and many other useful POKEs and PEEKs have also been moved around.

For example, a common way on the C64 of detecting which key has been pressed is to use the value stored in location (197): a value of 64 shows that nothing is currently being pressed, a value of 18 indicates that the D key has been pressed, for example, and so on. On the C128 we have to look at location (212), and if nothing is being pressed it contains the value of 88 (not 128, unfortunately, not even in hexadecimal).

These two locations do not, however, tell us whether a shift key, the logo key or the control key has been pressed. on the 64 location 653 determines this, and holds the following values:

0 — nothing being pressed
1 — shift key pressed
2 — logo key pressed
3 — CTRL key pressed

along with various combinations e.g. a value of 3 would indicate that the shift key has been pressed in conjunction with the logo key. Although the values returned are the same, the C128 requires us to look at memory location 211.

Another oft-used set of locations on the C64 are 198, and 631—639. The first contains the number of characters in the keyboard buffer, while the second lot contains the characters themselves. Thus something like:

```
POKE 631,82:POKE 632,85: POKE
633,78:    POKE 634,13:POKE    198,4
(RETURN)
```

is a long-winded way of running a program, although it does have its uses when chaining programs, for example.

The good old C128 will have none of this, and we have to look at location 208 to tell us how many characters are in the buffer, and locations 842 to 850 tell us what is actually in there.

Finally, for now, there are three locations on the C128 (and on the C64 of course) which look after the internal clock. On the C128 these are 160,161 and 162, as the following program will demonstrate:

```
10 PRINT "(CLR)"
20 PRINT "(HOME,15SP,HOME)"PEEK
(160);PEEK(161);PEEK(162)
30 GOTO 20
```

Just entering and running that short program will allow you to watch the clock updating itself in its own particular fashion. Now then, where are those locations on the C64? (Shouldn't be too difficult for you!)

P.G.

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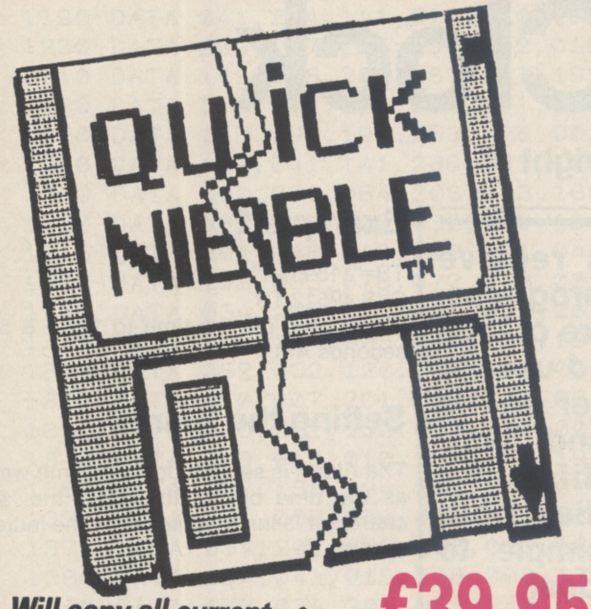

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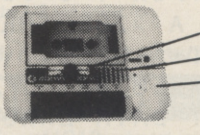

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Program

Alarm Clock

By Adam Wright

This program for the Commodore 64 will give it an Alarm Clock.

The Alarm Clock is interrupt driven and the display is created by redefining 2 Sprites with the relevant T.O.D. characters.

Turning the display on and off

The display is turned on by typing SYS 49152,1 and turned off by typing SYS 49152,0. NOTE: In order to start the clock, either of the 2 above should be used.

Setting the Time

The time is set by typing:—
SYS 49512,"HHMMSSI"
HH — HOURS — 01 TO 12
MM — MINUTES 00 TO 59
SS — SECONDS 00 TO 59
I INDICATOR 'A' OR 'P'

We sometimes receive CLOCK type programs, most of which are of little practical use and usually have little to offer on the programming and technical front. This one, however, satisfies both criteria. It is simple to drive and functional.

Example 1

SYS 49512,"104000P"
This would set the time to 10.40 PM precisely.

Example 2

T$="115957A"
SYS 49512,T$
This would set the time to 11.59 & 57 seconds AM.

Setting the Alarm

The Alarm is set in much the same way as the time but in this case the '@' character is inserted just after the initial comma.

Example 1

SYS 49512,@"104100P"
This would set the Alarm for 10.41 PM
NOTE: When the Alarm does go off, it will last for 30 seconds. This can be switched off by repeating one of the display options.

```
0 REM ********************************
1 REM *  ALARM CLOCK BY A.WRIGHT 1987 *
2 REM ********************************
3 :
10 L=49152
20 FOR X=0 TO 47:T=0:FOR Y=0 TO 14
30 READ A:IF A <0 OR A >255 THEN 60
40 POKE L,A:L=L+1:T=T+A:NEXT
50 READ A:T=T-(INT(T/256)*256)
60 IF T<>A THEN PRINT"DATA ERROR IN LINE"1000+(X*10)"CHECKSUM <>"A:STOP
70 PRINT1000+(X*10)"OK":NEXT
80 DISPLAY=49152:CLOCK=49512:CK=0
90 SYS DISPLAY,1            :REM TURN DISPLAY ON
100 SYS CLOCK,"104000P"  :REM SET CLOCK
110 SYS CLOCK,@"104100P" :REM SET ALARM
120 :
1000 DATA 032,253,174,032,121,000,201,048,208,006,169,000,072,076,026,138
1010 DATA 192,201,049,240,003,076,072,178,169,003,072,032,115,000,162,028
1020 DATA 003,142,023,208,142,029,208,202,142,016,208,162,000,142,027,118
1030 DATA 208,162,127,169,000,157,128,003,202,016,250,142,000,208,162,142
1040 DATA 039,142,002,208,160,050,140,001,208,140,003,208,162,014,142,083
1050 DATA 248,007,232,142,249,007,104,141,021,208,032,151,194,162,001,107
1060 DATA 142,191,194,202,142,194,194,032,026,193,173,014,221,009,128,007
1070 DATA 141,014,221,120,169,121,141,020,003,169,192,141,021,003,088,028
1080 DATA 096,174,033,208,232,142,039,208,142,040,208,206,191,194,240,049
1090 DATA 003,076,020,193,169,060,141,191,194,173,011,221,010,072,169,167
1100 DATA 000,105,000,141,192,194,104,074,041,240,074,160,000,032,083,160
1110 DATA 193,173,011,221,041,015,010,010,010,160,001,032,083,193,173,046
1120 DATA 136,003,073,096,141,136,003,141,145,003,173,010,221,041,240,026
1130 DATA 074,160,064,032,083,193,173,010,221,041,015,010,010,010,160,232
1140 DATA 065,032,083,193,173,192,194,208,010,169,080,160,066,032,083,204
```

```
1150 DATA 193,076,236,192,169,088,160,066,032,083,193,173,194,194,208,209
1160 DATA 015,169,031,141,193,194,173,013,221,041,004,240,023,238,194,098
1170 DATA 194,206,193,194,208,006,206,194,194,076,020,193,162,020,142,160
1180 DATA 004,212,232,142,004,212,173,008,221,076,049,234,173,014,220,182
1190 DATA 041,254,141,014,220,165,001,041,251,133,001,162,079,189,128,028
1200 DATA 209,157,195,194,202,016,247,162,007,189,008,208,157,019,195,117
1210 DATA 189,128,208,157,027,195,202,016,241,165,001,009,004,133,001,140
1220 DATA 173,014,220,009,001,141,014,220,096,170,024,105,008,133,250,042
1230 DATA 189,195,194,153,128,003,200,200,200,232,228,250,208,242,096, 158
1240 DATA 169,041,141,236,193,169,127,141,237,193,032,253,174,032,121, 211
1250 DATA 000,201,064,208,013,169,009,141,236,193,169,128,141,237,193, 054
1260 DATA 032,115,000,032,113,194,169,058,133,252,160,000,177,034,200, 133
1270 DATA 201,048,240,007,201,049,240,018,076,072,178,177,034,201,048, 254
1280 DATA 208,003,076,072,178,032,120,194,076,195,193,238,187,194,177, 095
1290 DATA 034,201,048,240,011,201,049,240,007,201,050,240,003,076,072, 137
1300 DATA 178,160,003,032,120,194,160,005,032,120,194,136,169,054,133, 154
1310 DATA 252,032,120,194,160,002,032,120,194,160,006,177,034,201,065, 213
1320 DATA 240,007,201,080,240,003,076,072,178,173,015,221,041,127,141, 023
1330 DATA 015,221,162,002,160,000,140,194,194,177,034,056,233,048,010, 110
1340 DATA 010,010,010,157,188,194,200,177,034,056,233,048,029,188,194, 192
1350 DATA 157,188,194,200,202,016,228,169,240,141,077,194,173,236,193, 048
1360 DATA 201,009,240,024,173,187,194,240,034,206,187,194,160,001,177, 179
1370 DATA 034,201,050,208,023,169,208,141,077,194,076,071,194,173,188, 215
1380 DATA 194,041,015,208,008,173,188,194,009,001,141,188,194,160,006, 184
1390 DATA 177,034,201,065,240,017,169,128,013,190,194,141,190,194,032, 193
1400 DATA 137,194,169,000,141,008,221,096,169,127,045,190,194,141,190, 230
1410 DATA 194,032,137,194,169,000,141,008,221,096,032,158,173,032,166, 217
1420 DATA 182,096,177,034,201,048,176,003,076,072,178,197,252,144,003, 047
1430 DATA 076,072,178,096,162,000,189,188,194,157,009,221,232,224,003, 209
1440 DATA 208,245,096,162,024,169,000,157,000,212,202,208,250,169,000, 054
1450 DATA 141,000,212,169,130,141,001,212,169,009,141,005,212,169,030, 205
1460 DATA 141,015,212,169,015,141,024,212,096,000,000,000,000,001,000, 002
1470 DATA 030,000,000,000,000,000,000,000,000,000,000,000,000,000,000, 030
```

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OXFORD BASIC	☐	N/A
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Disk Error Locate

By Chris Moody

C-64 + DISK DRIVE

A program to locate disk errors.

This useful program will examine tracks 1 to 35 including all the sectors on each track and report any read error encountered without bumping the read/write head in the drive. When an error is found the program will halt and wait for a key to be pressed so as to enable the operator to note the type and location of any error. There are several small subroutines each has been marked with a REM statement. All REM's may be removed from the program with no side effects. The small machine code routine is a 'Print At' routine as found in other BASIC's. The program has been made very uncompacted so it is easily understood.

```
10 REM *********************************
20 REM *      DISK ERROR LOCATOR       *
30 REM *        BY CHRIS MOODY         *
40 REM *********************************
50 ZA=49152:SP$="                          "
60 RV$=CHR$(18):C1$=CHR$(5):C2$=CHR$(144)
70 READ DA
80 IF DA=-1THEN110
90 POKE ZA,DA
100 ZA=ZA+1: GOTO 70
110 ZA=49152:PRINT CHR$(147),C1$
120 POKE 53280,4:POKE 53281,4
130 GOSUB 1050
140 SYS ZA,7,9:PRINT RV$" INSERT DISK TO BE TESTED "+C2$" "+C1$ "
150 SYS ZA,7,11:PRINT RV$"    PRESS [RETURN]        "+C2$" "+C1$
160 GET K$:IF K$<>CHR$(13)THEN 160
170 :
180 :
190 REM INITIALIZE & RESET DRIVE
200 OPEN 1,8,15,"UJ"
210 FOR I=1 TO 1000:NEXT
220 GOSUB 1050
230 SYS ZA,7,10
240 GET#1,A$:PRINT RV$+A$;:IF ST<>64 THEN 240
250 PRINT#1,"I":CLOSE 1
260 :
270 :
280 REM TURN BUMPS OFF ! !
290 CLOSE 1:OPEN 1,8,15,"M-W"+CHR$(106)+CHR$(0)+CHR$(1)+CHR$(133):CLOSE 1
300 :
310 :
320 FOR A=0 TO 2000:NEXT
330 PRINT CHR$(158):POKE 53281,0:TT=1:POKE 53280,0
340 PRINT CHR$(147)
350 PRINT:PRINT TAB(10)"DISK ERROR LOCATER"
360 PRINT:PRINT TAB(18)"BY"
370 PRINT:PRINT TAB(14)"CHRIS MOODY"
380 PRINT TAB(13)"(C) JUL  1986"
390 PRINT:PRINT:PRINT TAB(10)"PRESS '←' TO CONTINUE"
400 PRINT:PRINT" IT WILL TAKE ABOUT 3 MINS TO COMPLETE"
```

```
410 PRINT:PRINT:PRINT:PRINT"    ** THIS IS A NON-DESTRUCTIVE TEST  **"
420 GET A$:IF A$="←"THEN 440
430 GOTO 420
440 PRINT CHR$(147)+C1$:POKE 53280,4:POKE 53281,4
450 GOSUB 1050
460 SYS ZA,10,9:PRINT RV$"TRACK:"
470 SYS ZA,22,9:PRINT RV$"SECTOR:"
480 SYS ZA,10,11:PRINT RV$"ERROR:"
490 CLOSE 15:CLOSE 10
500 AA=1:AB=18:AC=25:AD=31:DV=0:SE=0
510 OPEN 15,8,15:OPEN 10,8,10,"#2"
520 :
530 :
540 REM TRACK 1 TO 17
550 S=SE:T=AA
560 GOSUB 860
570 SR=21:TR=18
580 GOSUB 1180
590 :
600 REM TRACK 18 TO 24
610 S=0:T=AB:SR=19:TR=25
620 GOSUB 1180
630 :
640 REM TRACK 25 TO 30
650 S=0:T=AC:SR=18:TR=31
660 GOSUB 1180
670 :
680 REM TRACK 31 TO 35
690 S=0:T=AD:SR=17:TR=36
700 GOSUB 1180
710 CLOSE 10:CLOSE15:GOTO 1120
720 :
730 :
740 REM READ ERROR CHANNEL
750 INPUT#15,A$
760 IF A$="00" THEN RETURN
770 SYS ZA,18,11:PRINT RV$;A$:SYS ZA,2,19
780 PRINT"PRESS 'C' TO CONTINUE OR 'Q' TO QUIT"
790 GET K$:IF K$="" THEN 790
800 IF K$="Q" THEN CLOSE 15:END
810 SYS ZA,2,19:PRINT SP$"           "
820 SYS ZA,18,11:PRINT RV$"   "
830 RETURN
840 :
850 :
860 REM COUNTER
870 SYS ZA,16,9:PRINT C1$+RV$T
880 RETURN
890 SYS ZA,29,9:PRINT RV$+"  "
900 SYS ZA,29,9:PRINT RV$S
910 RETURN
920 :
930 :
940 REM DATA FOR PRINT AT ROUTINE
950 DATA 032,121,000,032,253,174,032
960 DATA 138,173,032,247,183,165,020
970 DATA 201,040,144,003,076,072,178
980 DATA 072,032,253,174,032,138,173
990 DATA 032,247,183,165,020,201,025
```

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NOW THE FIRST OF A NEW GENERATION OF BACKUP CARTRIDGE

Innovative new hardware design and programming techniques have allowed us to produce a cartridge of a calibre never seen before!!!

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TAKE ME TO THE HEART OF YOUR COMPUTER!
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MK3
ACTION
REPLAY

☐ All backups will reload at turbo speed independently of the cartridge.

☐ Dual speed tape turbo system programs can load up to 3 times faster than commercial turbos –thats over 10 times normal Commodore speed.

☐ Freeze the action then view the program with the monitor feature. Add pokes for infinite lives etc. Then Restart the game or backup – ideal for customised versions of your games.

☐ Picture Save. Save any multi-colour. Hires screen to disk or tape. Compatible with Blazing Paddles, Koala, Slideshow etc.

☐ Fully compatible with 1541, 1541C, 1570, 1571, and enhancer or any CBM compatible data recorder.

☐ For C64, 64C, 128, 128D (in 64 mode).

☐ Unique Sprite Monitor. Freeze the Action and view all the Sprites, watch the animations scroll across the screen. Save Sprites to disk or tape. Customize your games by loading Sprites from one game to another – then restart the program or make a backup.

☐ Compatible with fast DOS and Turbo ROM systems.

☐ Backup process in turbo speed – faster than any rivals.

☐ Special compacting techniques. Each program is saved as a single file.

☐ Transfers multistage tape programs to disk – more than any other cartridge – even the extra stages are turbo load – a unique feature.

☐ Sprite Killer! make yourself indestructible by disabling Sprite collisions in games.

☐ Fast disk format (20 secs).

☐ Built-in Unstoppable reset button.

FASTLOADER

Action Replay III even has a built in disk fast loader which speeds up loading 5 times. Uses no memory – invisible to the system. **You could pay £20 alone for this feature.**

PERFORMANCE GUARANTEE

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*Action Replay Mk 3 will backup any program which any other cartridge can backup – and more! It also has an unmatchable range of features. Consider 'Freeze-Frame' for example, which uses more disk space, saves at slower speed, has slower tape loader, has no built in disk fastloader, no picture, Sprite or restart features and costs £10 more than Action Replay. So who's kidding who? Buy Action Replay Mk 3. If you find that it does not live up to our claims return it within 7 days of receipt and your money will be refunded.

SEE DISKMATE AD FOR COMBO OFFER

ACTION REPLAY ENHANCEMENT DISK

Extending Action Replay's capabilities even further, this disk, contains a collection of tape to disk routines for a few newer games which load subsequent parts in a non-standard way. All the latest titles are catered for – more than any competing utility, and unlike other systems, ACTION REPLAY LOADS EXTRA SECTIONS AT TURBO SPEED. Disk includes file copy, disk backup and other useful utilities. Regular updates at low cost for use with Action Replay only. **Disk £7.95.**

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Cartridge based backup systems usually destroy loading pictures – NOT WITH ACTION REPLAY. Multicolour pictures from games, graphic packages or loading screens can be saved to disk using Action Replay and viewed singly or in sequence with this sophisticated slideshow package. Turboload throughout. Sixteen pictures per disk. Joystick or keyboard control. An interesting new use for your computer.
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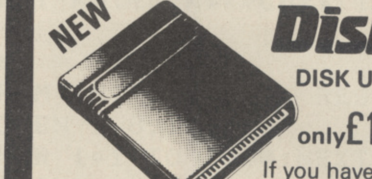

Built-in Reset Switch

If you have a disk drive then you **need** a Diskmate!!

☐ Diskmate is a fast disk turbo loader that will speed up your normal loading software by 5 times.

BUT THAT'S NOT ALL

☐ Fast save

☐ Fast format (approx 10 seconds)

☐ Improved single stroke DOS commands ie. load, save, directory, scratch, etc.

☐ Redefined function keys: ie. load, load/run, list, directory, monitor, etc.

☐ Powerful toolkit commands: ie. old, delete, merge, copy, append, autonum, linesave etc., etc.

PLUS A powerful machine code monitor/disassembler. All the usual monitor commands: assemble, disassemble, move, find, compare, fill, number conversion etc., etc. **NB.** This is a full monitor, not a token effort like some available.

* Diskmate incorporates special switching techniques which make it "invisible" to the system. Therefore the fastload will work with more software than other types. In addition this makes the other commands including the monitor more powerful. For instance the monitor 'floats' and is able to look under ROMs and even under itself!

SPECIAL OFFERS ← ← ← ← ← ← ← ← ← ← ← ←

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****WARNING****
FAST HACK'EM IS A VERY EFFECTIVE PRODUCT DESIGNED TO ENABLE USERS TO MAKE BACK UP FOR THEIR OWN USE – DATEL IN NO WAY CONDONES SOFTWARE PIRACY.

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- C64 or 128 Modes

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This is the module that gives Fast Hack'em its power. The parameters module contains dozens of "Parameter Keys" that are used to unlock those heavily protected programs. Each parameter is designed for a particular software brand or even a particular program. Other copy programs may make strong claims, but without special parameters they just can't cope. Datel will be offering updates to Fast Hack'em on a quarterly basis, featuring 20-50 new parameters plus other improvements as they're made. Prices to be £6 plus old disk.

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```
1000 DATA 176,237,170,104,168,024,032
1010 DATA 240,255,096,-1
1020 :
1030 :
1040 REM PRINT BOX ROUTINE
1050 SYS ZA,7,8:PRINT RV$;SP$
1060 SYS ZA,7,9:PRINT RV$;SP$;C2$" "C1$
1070 SYS ZA,7,10:PRINT RV$;SP$;C2$" "C1$
1080 SYS ZA,7,11:PRINT RV$;SP$;C2$" "C1$
1090 SYS ZA,7,12:PRINT RV$;SP$;C2$" "C1$
1100 SYS ZA,8,13:PRINT RV$;C2$;SP$;C1$
1110 RETURN
1120 GOSUB 1040
1130 SYS ZA,13,09:PRINT RV$"TEST  COMPLETED"
1140 SYS ZA,12,11:PRINT RV$"SPACE TO CONTINUE"
1150 GET A$:IF A$="" THEN 1150
1160 IF A$=CHR$(32) THEN RUN
1170 END
1180 GOSUB 890
1190 PRINT#15,"U1:10,"DV;T;S
1200 GOSUB 740
1210 IF A$="21" THEN T=T+1
1220 S=S+1:IF S=SR THEN S=0:T=T+1:GOSUB 860
1230 IF T=TR THEN GOTO RETURN
1240 GOTO 1180

READY.
```

```
  .

.,  C000 20 79 00 JSR $0079
.,  C003 20 FD AE JSR $AEFD
.,  C006 20 8A AD JSR $AD8A
.,  C009 20 F7 B7 JSR $B7F7
.,  C00C A5 14    LDA $14
.,  C00E C9 28    CMP #$28
.,  C010 90 03    BCC $C015
.,  C012 4C 48 B2 JMP $B248
.,  C015 48       PHA
.,  C016 20 FD AE JSR $AEFD
.,  C019 20 8A AD JSR $AD8A
.,  C01C 20 F7 B7 JSR $B7F7
.,  C01F A5 14    LDA $14
.,  C021 C9 19    CMP #$19
.,  C023 B0 ED    BCS $C012
.,  C025 AA       TAX
.,  C026 68       PLA
.,  C027 A8       TAY
.,  C028 18       CLC
.,  C029 20 F0 FF JSR $FFF0
.,  C02C 60       RTS
```

Inside Info

A few months ago I made passing mention of the ROM within the 1571 disk drive being bugged. This month I would like to go into more detail, and illustrate one of the ways in which ICPUG works for its members.

The essence of the bugs are that the drive appears to overwrite existing files in certain instances when the disk is more than half full. The implication is that it is only reliable when less than 664 blocks are being used, making it reliable only as a single sided drive. ICPUG, along with various software houses, is in possession of C128 and 1571 bug lists dated 23 September 1986 prepared by Fred Bowen, Senior Systems Engineer at Commodore in the US, who originated the C128 concept and developed its architecture and operating system. One of the fourteen items on the bug list (known as "Release Notes 1571 ROM Upgrade to ROM 310654-03") states, "With multiple files open and sectors being allocated (sic) on both sides and BAM swapper mechanism would trash BAM side one. This has been remedied (1571)". As most readers will know, the BAM (Block Availability Map) is the index to all the information stored on a disk. Corruption or trashing of the BAM makes the disk unusable.

ICPUG wrote to CBM (UK) on 24 October 1986 about these problems and by letter of 28 October 1986 CBM (UK) promised a reply as soon as the Technical Manager, Mike Hambly, could discuss the "matter with Mr. Chris Kaday and the Marketing Department within the next 7 days". In their letter, ICPUG made an informal proposal to help CBM (UK) distribute new 1571 and 128 ROMS. Unfortunately no reply was received from CBM (UK).

At the Commodore Show in November, Chris Kaday, the General Manager of CBM (UK), was invited to speak at one of our public 'Question and Answer Sessions'. At this meeting, he stated that he was aware of the bugs, and would personally look into the issue of upgrade ROMS.

Meanwhile one ICPUG member wrote numerous letters to CBM (UK) threatening legal action over this 1571 problem. CBM (UK) finally responded to the third letter on 29 January 1987, a portion of which reply reads, "Thank you for your recent letter concerning the 1571 disk drive. From your letter it appears that you have been given incorrect information. Commodore has made no statement regarding any problem with the 1571 disk drive. Our products undergo a continuous development process and if as a result of this, any action is deemed appropriate, it will be made public through trade journals, your local dealer, or user groups. Thank you for your support of Commodore."

After receiving a copy of this letter, ICPUG contacted two local trading standards departments. One department in the London area stated that the appropriate office was the Berkshire one as CBM (UK) is located there. However the Berkshire trading Standards department stated that, while in their opinion they could take action if someone advertised the sale of a quart of something while furnishing only a pint, a double sided drive which works only as a single sided one would be outside their purview and any complaints about them should be pursued as a civil action by the parties concerned.

ICPUG is appalled at this state of affairs. If what Berkshire Trading Standards department says is true, then the Trading Standards Acts would appear to be rather ineffective and all redress by purchasers of faulty products of this type must ultimately be through the civil court system.

In view of the above, and after taking legal advice, ICPUG should like to inform its readers that if they find products unsuitable for the purpose for which they were sold, may wish to consider as one possible action, legal action against the vendor of the goods in the small claims court. A local consumer advice bureau should be able to assist with these matters.

ICPUG is continuing to explore ways of obtaining upgrade replacement ROMs for the 1571 as well as the 128. Along these lines, unconfirmed information has been received by ICPUG which indicates that the version 03 ROMs have been abandoned and newer ones (version 04 or version 05) are under development. Certainly it seems true that the version 03 ROM creates some new and even more serious problems than it solves. However another rumour states that some or all of the CBM employees in the US involved with these ROMs have been made redundant. We stress that these rumours are NOT confirmed.

We are keeping members informed on further developments as they become known through our own newsletter, and if the demand is sufficient, will inform you through this column as well.

T.W.A.

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Menugen

C-64

By Paul Gerard

A very nice program that enables the Commodore 64 to have drop down windows similar to those found on the Amiga.

MENUGEN is a utility routine written in machine code for the CBM64. Most of you will have already seen menus on the screen of an AMIGA computer. This type of menu is becoming a standard for menu display. With MENUGEN, you can now do the same very easily on your CBM64.

Calling the routine in your basic program will give a neat and up-to-date presentation to your menus. In addition, using MENUGEN is time saving. MENUGEN does not disturb your screen because it immediately saves under the basic ROM the part of your screen that the menu will fill. After your choice, the screen is restored to its previous state.

A menu is always 8 characters wide and may be displayed between columns 0-7, 8-15, 16-23, 24-31, 32-39. The number of items in a menu range from 1 to 24.

At the top of the menu comes the menu title followed by the list of the menu items representing the possible choices. The entire menu appears in reverse with the first item having a black background colour. You can walk along the list of the choices by pressing the <CRSR>-up and <CRSR>-down keys. The current item is displayed with a black background colour. When the current items is the one you want, then press the <RETURN> key. At this moment the routine restores the previous screen and assigns to an integer variable the number of the selected item before returning to your program. So, you may use this integer variable in an ON . . . GOTO . . . or in a IF . . . THEN . . . statement.

Now, let us give the syntax for calling MENUGEN in a basic program:

SYS 49821,ME%,ME$(0),integer

Before calling the routine, you have to dimension a string-array with a DIM ME$(N) statement where N is the number of items of your menu. Then assign strings to ME$(0), ME$(1), . . ., ME$(N). ME$(0) will be the menu title, and ME$(1), . . ., ME$(N) the N menu items, i.e. the N possible choices.

The integer variable ME% is the one to which the routine returns the number of the selected item.

Of course, you may choose other names for the string-array and the integer variable.

Integers must be imperatively 0,1,2,3 or 4. It tells the routine the zone where the menu must be displayed. 0 causes the menu to be displayed between columns 0-7, 1 between columns 8-15, 2 between columns 16-23, 3 between columns 24-31, and 4 between columns 32-39.

Note that when displaying the title and items, MENUGEN uses only 8 characters, so that it cuts any lengthy items and fills the right side of any brief items with blank spaces.

The program MENUGEN LOAD is a basic program that pokes the MENUGEN routine in RAM (49821-50533). The MENUGEN DEMO program will give you an elementary example of the use of the MENUGEN routine. It has been written to show you how the routine works.

I am sure you will very soon discover how useful and easy MENUGEN can be to set up different menus hierarchically (i.e. the choice of an item causes a submenu specific to that item to appear).

```
1 REM *********************************
2 REM *        MENUGEN LOADER         *
3 REM *  BY PAUL GERARD JANUARY 1987  *
4 REM *********************************
10 L=49821
20 FOR X=0 TO 47:T=0:FOR Y=0 TO 14
30 READ A:IF A <0 OR A >255 THEN 60
40 POKE L,A:L=L+1:T=T+A:NEXT
50 READ A:T=T-(INT(T/256)*256)
60 IF T<>A THEN PRINT"DATA ERROR IN LINE"1000+(X*10)"CHECKSUM <>"A:STOP
70 PRINT1000+(X*10)"OK":NEXT
80 PRINT:PRINT"TO CALL ROUTINE USE:"
90 PRINT:PRINT"SYS 49821,ME%,ME$(0),INT    (SEE TEXT)
1000DATA 056,032,010,229,138,072,152,072,032,253,174,032,139,176,165,196
1010DATA 071,141,183,002,165,072,141,184,002,032,253,174,032,139,176,231
1020DATA 165,095,133,109,165,096,133,110,024,165,095,105,005,133,095,092
1030DATA 165,096,105,000,133,096,160,001,177,095,141,167,002,032,253,087
1040DATA 174,024,032,107,169,165,020,141,172,002,032,248,194,032,010,242
1050DATA 196,032,120,196,032,054,195,104,168,104,170,024,032,010,229,130
1060DATA 096,032,130,195,032,156,195,032,182,195,032,191,195,169,001,041
1070DATA 141,168,002,160,000,177,251,145,105,177,253,145,107,192,007,238
1080DATA 240,004,200,076,011,195,173,168,002,205,167,002,240,018,238,147
1090DATA 168,002,032,210,195,032,224,195,032,238,195,032,252,195,076,030
1100DATA 009,195,096,120,165,001,041,254,133,001,032,130,195,032,156,024
1110DATA 195,032,182,195,032,191,195,169,001,141,168,002,160,000,177,048
1120DATA 105,145,251,177,107,145,253,192,007,240,004,200,076,080,195,129
1130DATA 173,168,002,205,167,002,240,018,238,168,002,032,210,195,032,060
```

```
1140 DATA 224,195,032,238,195,032,252,195,076,078,195,165,001,009,001,096
1150 DATA 133,001,088,096,169,000,133,251,169,004,133,252,032,200,195,064
1160 DATA 024,165,251,109,173,002,133,251,165,252,105,000,133,252,096,063
1170 DATA 169,000,133,253,169,216,133,254,032,200,195,024,165,253,109,001
1180 DATA 173,002,133,253,165,254,105,000,133,254,096,169,000,133,105,183
1190 DATA 169,160,133,106,096,169,000,133,107,169,161,133,108,096,173,121
1200 DATA 172,002,010,010,010,141,173,002,096,024,165,251,105,040,133,054
1210 DATA 251,165,252,105,000,133,252,096,024,165,253,105,040,133,253,179
1220 DATA 165,254,105,000,133,254,096,024,165,105,105,008,133,105,165,025
1230 DATA 106,105,000,133,106,096,024,165,107,105,008,133,107,165,108,188
1240 DATA 105,000,133,108,096,169,001,141,168,002,032,033,196,173,168,245
1250 DATA 002,205,167,002,240,006,238,168,002,076,015,196,096,173,168,218
1260 DATA 002,010,024,109,168,002,105,004,141,171,002,032,220,196,032,194
1270 DATA 130,195,032,003,197,172,171,002,177,109,141,170,002,200,177,086
1280 DATA 109,200,133,034,177,109,133,035,169,032,162,000,157,174,002,090
1290 DATA 232,224,008,208,248,160,000,177,034,153,174,002,200,204,170,146
1300 DATA 002,240,004,192,008,208,241,032,018,197,160,000,177,095,145,183
1310 DATA 251,200,192,008,240,003,076,107,196,096,169,002,141,168,002,059


1320 DATA 032,211,196,032,228,255,201,017,240,011,201,145,240,027,201,189
1330 DATA 013,240,042,076,128,196,173,168,002,205,167,002,240,230,032,122
1340 DATA 220,196,238,168,002,032,211,196,076,128,196,173,168,002,201,159
1350 DATA 002,240,211,032,220,196,206,168,002,032,211,196,076,128,196,068
1360 DATA 173,183,002,133,095,173,184,002,133,096,160,001,056,173,168,196
1370 DATA 002,233,001,145,095,169,000,136,145,095,096,169,000,141,169,060
1380 DATA 002,032,225,196,096,169,014,076,213,196,032,156,195,032,244,086
1390 DATA 196,173,169,002,160,000,145,253,200,192,008,208,249,096,174,177
1400 DATA 168,002,224,001,240,007,032,224,195,202,076,247,196,096,174,036
1410 DATA 168,002,224,001,240,007,032,210,195,202,076,006,197,096,169,033
1420 DATA 174,133,095,169,002,133,096,160,000,177,095,032,044,197,145,116
1430 DATA 095,200,192,008,240,003,076,028,197,096,072,056,233,032,048,040
1440 DATA 028,104,072,056,233,064,048,017,104,072,056,233,096,048,020,227
1450 DATA 104,072,056,233,128,048,020,076,078,197,104,076,098,197,104,055
1460 DATA 169,032,076,098,197,104,056,233,064,076,098,197,104,056,233,001
1470 DATA 032,076,098,197,024,105,128,096,000,000,000,000,000,000,000,244
```

```
10 REM ********************************
20 REM *                              *
30 REM *         MENUGEN-DEMO         *
40 REM *                              *
50 REM ********************************
60 DIM A$(4),B$(4),C$(6),D$(3),E$(4)
70 PRINT CHR$(147):PRINT"             PROJECT   = F1"
80 PRINT"             PEN-TYPE = F3"
90 PRINT"             MODE   = F5"
100 PRINT"             COLOURS   = F7"
110 PRINT"             TEXT      = F2"
120 PRINT:PRINT"    PRESS FUNCTION KEY AND THEN USE   "
130 PRINT:PRINT" CURSOR KEYS AND RETURN TO MAKE CHOICE"
140 FOR X = 0 TO 4:READ A$(X):NEXT
150 FOR X = 0 TO 4:READ B$(X):NEXT
160 FOR X = 0 TO 6:READ C$(X):NEXT
170 FOR X = 0 TO 3:READ D$(X):NEXT
180 FOR X = 0 TO 4:READ E$(X):NEXT
190 GET A$:IF A$=""THEN 190
```

```
200 IF ASC(A$)<133 OR ASC(A$)>137 THEN 190
210 ON ASC(A$)-132 GOSUB 240,250,260,270,280
220 PRINT Z$:IF Z$="QUIT" THEN END

230 GOTO 190
240 SYS 49821,A%,A$(0),0:Z$=A$(A%):RETURN
250 SYS 49821,B%,B$(0),1:Z$=B$(B%):RETURN

260 SYS 49821,C%,C$(0),2:Z$=C$(C%):RETURN
270 SYS 49821,D%,D$(0),3:Z$=D$(D%):RETURN
280 SYS 49821,E%,E$(0),4:Z$=E$(E%):RETURN

290 DATA PROJECT,LOAD,SAVE,ERASE,QUIT
300 DATA PEN,THIN,THICK,SPRAY,RANDOM
310 DATA MODE,BOX,CIRCLE,FILL,LINE,RAYS,POINT

320 DATA COLOURS,BORDER,SCREEN,PEN
330 DATA TEXT,NORMAL,REVERSE,BOLD,ITALIC
```

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Antihype

by Kelvin C. King

We don't get many programs from Australia. It is not that they are all published there but, Kelvin King tells us, the (only) magazine there 'is more into "bench tests" and "bubble sorts" than space invaders.' I don't think anyone buys it anyway (we're all too busy reading the best Commodore mag in the world . . . CCI of course).

After reading "Attention programmers" I tried to work out what sort of program you were more likely to want. I figure you would prefer something relatively short that still did something interesting and worth the disk space for your readers. The result is a 5 block game (in code).

The code itself is 1024 bytes (including tables etc.) long and reasonably well documented in the latter lines of the basic loader. What I've tried to do is write a piece of code that I would have liked to find in a magazine a few years ago (to go through and work out how to do a few interesting things). I'm biased but I think the result is a nice neat little program that does quite a bit for only 1k.

The basic loader is a little more cumbersome but includes routines to check the data etc. and to save the resulting object file to tape or disk. The game itself isn't bad (for 1k) and managed to hook me for a couple of days. I think there's something nice about its simplicity.

Enter Kevin's instructions exactly as listed and save a copy before running it.

Any data errors are tracked to the very line and should be easily found.

You are finally offered up to 17 trillion copies of the game on tape or disk. In case you may want a further 17 trillion copies at a future date, it's a good idea to keep a copy or 3 of the listed program stashed well away from Amstrad owners, fluff covered lollipop suckers, magnets, small children and any other physical entity or non-entity liable to damage a C64 program.

BRIEF PLAYING INSTRUCTIONS FOR "ANTIHYPE"

Plug a joystick in the rear port. SYS49152 to start the program. You are thrown straight into the first game. Each following game is started by pressing any key.

By moving left or right you must manipulate your craft to avoid hype. Yes, hype. As time passes the hype increases so the game is quite realistic.

Your resistance to the hype consists of 200 uncorrupted (as yet) braincells. Once your brain is fully processed into yoghurt you will no longer be able to resist buying a copy of "The Way of the Exploding Enema" from "Fully Hype Software". Good luck.

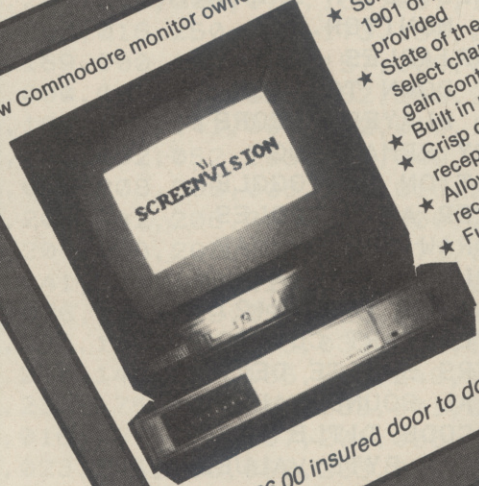
K.K.

```
1 REM **********************************
2 REM *                                *
3 REM *        C64 ANTIHYPE (1K)       *
4 REM *                                *
5 REM *          BY KELVIN KING        *
6 REM *                                *
7 REM **********************************
10 L=49152
20 FOR X=0 TO 70:T=0:FOR Y=0 TO 14
30 READ A:IF A <0 OR A >255 THEN 60
40 POKE L,A:L=L+1:T=T+A:NEXT
50 READ A:T=T-(INT(T/256)*256)
60 IF T<>A THEN PRINT"DATA ERROR IN LINE"1000+(X*10)"CHECKSUM <>"A:STOP
70 PRINT1000+(X*10)"OK":NEXT
80 INPUT"SAVE TO (T)APE OR (D)ISK";A$
90 IF A$<>"T" AND A$<>"D" THEN 80
100 N$="ANTIHYPE-49152":FOR N=1 TO 14
110 POKE 678+N,ASC(MID$(N$,N,1)):NEXT
120 POKE 251,1:IF A$="D" THEN POKE 251,8
130 SYS 50176:INPUT"AGAIN Y/N";B$
140 IF B$="Y" THEN 130
150 END
1000 DATA 032,168,229,141,032,208,169,059,141,017,208,169,029,141,024,  231
1010 DATA 208,133,252,138,133,251,168,145,251,200,208,251,230,252,166,  170
1020 DATA 252,224,064,208,243,169,016,153,000,004,153,000,005,153,000,  108
1030 DATA 006,153,000,007,200,208,241,169,003,133,252,032,151,224,165,  152
1040 DATA 141,133,253,032,151,224,165,141,041,031,024,105,032,133,254,  068
1050 DATA 032,151,224,165,141,041,007,170,189,248,195,145,253,198,251,  106
1060 DATA 208,220,198,252,208,216,169,112,133,174,133,002,169,033,133,  056
1070 DATA 175,164,002,185,108,195,170,032,121,193,230,002,165,002,201,  153
1080 DATA 140,208,239,162,024,189,195,195,157,000,212,202,016,247,169,  051
```

```
1090  DATA  013,162,007,157,248,007,202,208,250,169,015,141,248,007,162,  204
1100  DATA  062,189,132,195,157,192,003,202,016,247,162,015,189,116,195,  024
1110  DATA  157,000,208,202,016,247,142,021,208,120,169,192,141,021,003,  055
1120  DATA  169,207,141,020,003,088,162,001,134,172,134,173,142,023,208,  241
1130  DATA  169,200,133,171,202,134,169,134,170,076,073,194,165,172,024,  138
1140  DATA  101,173,133,173,201,012,208,008,169,255,133,172,198,173,208,  013
1150  DATA  018,201,000,208,014,169,001,133,172,230,173,162,007,254,039,  245
1160  DATA  208,202,016,250,166,173,189,094,195,133,251,189,105,195,133,  195
1170  DATA  252,169,000,162,063,157,000,003,232,228,251,208,248,169,255,  093
1180  DATA  157,000,003,232,228,252,208,248,169,000,157,000,003,232,016,  113
1190  DATA  250,165,173,141,001,212,010,141,008,212,010,141,015,212,032,  187
1200  DATA  052,193,032,052,193,076,049,234,173,000,220,041,008,208,026,  021
1210  DATA  238,000,208,208,008,173,016,208,009,001,141,016,208,173,000,  071
1220  DATA  208,201,042,208,003,206,000,208,076,120,193,173,000,220,041,  107
1230  DATA  004,208,028,206,000,208,173,000,208,201,255,208,011,173,016,  107
1240  DATA  208,041,254,141,016,208,173,000,208,201,047,208,003,238,000,  154
1250  DATA  208,096,120,169,051,133,001,169,208,133,252,224,032,144,007,  155
1260  DATA  230,252,138,056,233,032,170,138,010,010,010,133,251,160,007,  038
1270  DATA  177,251,145,174,136,016,249,165,174,024,105,008,133,174,144,  027
1280  DATA  002,230,175,169,055,133,001,088,096,169,048,162,003,149,108,  052
1290  DATA  202,016,251,165,107,201,003,144,031,208,006,165,106,201,232,  246
1300  DATA  144,023,165,106,056,233,232,133,106,176,002,198,107,165,107,  161
1310  DATA  056,233,003,133,107,230,108,076,182,193,165,107,208,006,165,  180
1320  DATA  106,201,100,144,016,230,109,165,106,056,233,100,176,002,198,  150
1330  DATA  107,133,106,076,219,193,165,106,201,010,144,012,230,110,165,  185
1340  DATA  106,056,233,010,133,106,076,245,193,165,106,024,101,111,133,  006
1350  DATA  111,169,108,133,002,166,002,181,000,170,032,121,193,230,002,  084
1360  DATA  166,002,224,112,208,240,096,165,169,133,106,165,170,133,107,  148
1370  DATA  169,034,133,175,169,176,133,174,032,173,193,165,171,133,106,  088
1380  DATA  169,000,133,107,169,035,133,175,169,112,133,174,076,173,193,  159
1390  DATA  162,003,254,000,208,208,052,173,017,208,172,018,208,041,128,  060
1400  DATA  072,152,157,255,207,138,056,233,001,074,168,169,001,010,136,  037
1410  DATA  208,252,133,255,104,240,011,165,255,013,016,208,141,016,208,  177
1420  DATA  076,132,194,169,255,056,229,255,045,016,208,141,016,208,232,  184
1430  DATA  232,224,017,208,193,173,030,208,240,027,169,255,133,168,198,  171
1440  DATA  171,162,008,169,000,141,024,212,032,179,238,169,015,141,024,  149
1450  DATA  212,032,179,238,202,208,237,198,168,208,010,230,169,208,002,  197
1460  DATA  230,170,169,003,133,168,032,035,194,165,170,201,004,208,005,  095
1470  DATA  169,001,141,029,208,173,018,208,048,051,238,002,208,208,008,  174
1480  DATA  173,016,208,009,002,141,016,208,206,006,208,173,006,208,201,  245
1490  DATA  255,208,028,173,016,208,041,008,201,008,208,011,173,016,208,  226
1500  DATA  041,247,141,016,208,076,254,194,173,016,208,009,008,141,016,  212
1510  DATA  208,165,170,041,007,074,133,002,169,004,056,229,002,168,032,  180
1520  DATA  179,238,136,208,250,165,170,201,008,208,005,169,011,141,029,  070
1530  DATA  208,165,170,201,016,208,005,169,107,141,029,208,165,170,201,  115
1540  DATA  024,208,005,169,255,141,029,208,165,170,201,032,208,005,169,  197
1550  DATA  152,141,001,208,165,171,240,003,076,073,194,120,169,234,141,  040
1560  DATA  021,003,169,049,141,020,003,088,169,000,141,021,208,032,228,  013
1570  DATA  255,240,251,234,076,000,192,094,091,088,085,082,079,076,073,  124
1580  DATA  070,067,064,097,100,103,106,109,112,115,118,121,124,127,172,  069
1590  DATA  216,000,000,000,032,000,064,000,096,000,128,000,160,000,192,  120
1600  DATA  000,024,000,000,024,000,000,060,000,003,102,192,003,231,192,  063
1610  DATA  003,231,192,003,126,192,000,090,000,006,255,096,015,231,240,  144
1620  DATA  014,255,112,014,102,112,014,255,112,015,231,240,015,255,240,  194
1630  DATA  006,255,096,000,060,000,000,000,000,000,000,000,000,000,000,  161
1640  DATA  000,000,000,000,000,129,001,069,000,240,004,000,000,000,037,  224
1650  DATA  000,240,007,000,128,128,069,000,240,000,000,000,015,001,014,  074
1660  DATA  020,009,008,025,016,005,032,040,049,011,041,032,002,025,032,  091
1670  DATA  011,005,012,022,009,014,032,011,009,014,007,012,064,032,016,  014
1680  DATA  008,004,002,033,166,251,169,001,168,032,186,255,160,002,162,  063
```

```
1690 DATA 167,169,014,032,189,255,162,000,134,253,169,192,133,254,160, 235
1700 DATA 196,169,253,076,216,255,000,000,000,000,000,000,000,000,000, 141
```

```
FOR THOSE INTERESTED IN EXAMINING
THE CODE WITH A MONITOR.
******  MAIN VARIABLES  ******
,     A8 - COUNT DOWN TO SCORE
, A9/AA - LO/HI PLAYERS SCORE
,     AB - ENERGY REMAINING
,     AC - ANIMATION +/-TOGGLE
,     AD - POINTER ANIM.TABLES
, AE/AF - POS-DRAW CHR ON MAP
**********  TABLES  **********
C35E-C373 ANIMATION TABLES(2)
C374-C383 SPRITE START CO-ORDS
C384-C3C2 PLAYERS SPRITE DEF.
C3C3-C3DB INITIAL SOUND VALS.
C3DC-C3F7 SCRN/CODE TITLE TEXT
C3F8-C3FF MAP STAR BYTE VALUES
*******  PROGRAM FLOW  *******
TO ACTIVATE G.C000 (SYS49152)
C000  RESET VIC & SET BORD BLK
C006  TURN ON BITMAP AT $2000
C010  CLEAR THROUGH MAP AREA
C023  SET MAP COL WHITE ON BLK
C034  MAP A STARRY BACKGROUND
C060  DRAW TITLE ON BITMAP
C07B  INITIALISE SOUND
C086  INITIALISE SPRITES
C0AE  SET IRQ (TO C0CF)
C0BA  INITIALISE VARIABLES
C0CC  JUMP TO MAIN LOOP*(C249)
C249 *UPDATE Y CO-ORDS
C28A  COLLISION CHECK & SCORE
C2B8  CALL DISPLAY SCORE/ENERGY
C2BB  EXP SHIP IF SCORE 1024
C2C6  UPDATE X CO-ORDS
C2FE  ADJUST DIFFICULTY WITH
.     DELAYS AND SPRITE EXPS
C33D  IF NOT END LOOP BACK*
C344  END GAME AND WAIT FOR
.     ANY KEY TO RESTART
********  INTERRUPT  ********
C0CF  ANIMATE SPRITES
C11E  UPDATE SOUND
C12B  CALL READ J/STICK & MOVE
C131  CALL DEFAULT IRQ
***********  SUBS  ***********
C134  READ J/STICK & MOVE
C179  DRAW SCRN CODE CHR IN XREG
.     ON BITMAP FROM AE/AF
C1AD  PRINT INTEGER IN 6A/6B
C223  DISPLAY SCORE/ENERGY
IF YOU LIKE WHAT THIS 1K OF CODE
DOES PLEASE LOOK FOR MY SOON TO
BE RELEASED (50K) GAME CALLED
****** ONE-DAY CRICKET *******
```



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INCEPT	SIREN CITY	
INCEPT	GET OFF MY GARDEN	
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INCEPT	BIG TOP BARNEY	
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ARIOLA	D-BUG	
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ARGOS	GIVE REGARDS TO BROAD ST.	
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OCEAN	DALEY THOMPSON DECATH.	
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ULTIM	BLACK WYTCH	
ULTIM	IMHOTEP	
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COMM	ZORK 2 (DISC)	
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ACTVSN	BEAMRIDER	
ACTVSN	PITFALL	
VIRGIN	NOW! GAMES	
CRL	BLADE RUNNER	
MELBHS	STARION	
MELBHS	FIGHTING WARRIOR	
PARKER	QBERT	
ATARI	DONKEY KONG	
ATARI	DIG DUG	
ORPHES	THE YOUNG ONES	
INCEPT	MEGA COMPILATION	
USGOLD	DONALD DUCK	
ATARI	CENTIPEDE	
COMM	JACK ATTACK (CARTRIDGE)	
USGOLD	SUPER ZAXXON (DISC)	
COMM	MONEY MANAGER (DISC)	
COMM	LOCOMOTION	
MELBHS	SHERLOCK HOLMES	
COMM	HI FLYER (DISC)	
LEIGEN	CLUEDO	
ACTVSN	TOUR DE FRANCE	
LEIGEN	KENSINGTON	
USGOLD	LEADER BOARD TOURNAMENT	
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Here is our up-dated Add On Guide, covering all that's available to considerably enhance your computer's potential and give value for money. The Guide covers monitors, interfaces, modems and other hardware products which can prove to be a very worthwhile investment.

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Product	Features	Price	Company
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BM 7522	LA Phosphor, amber screen 12″ Mono	£97.95	Philips
BM 7542	WD Phosphor, Paper white screen, 12″ Mono	£97.95 £97.95	Philips
BM 7513	P39 Phosphor, green screen 12″	£112.95	Philips
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FREEZER

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  16 SUB MENUS
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  4 resets
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  Disk to disk, Back up
  Disk to tape, Back up
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  INCLUDES DISK DRIVE MONITOR
- ★ **FREEZER SWITCH**

- ★ **BASIC 4.0 COMMANDS**
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- ★ **KEYBOARD EXTRAS**
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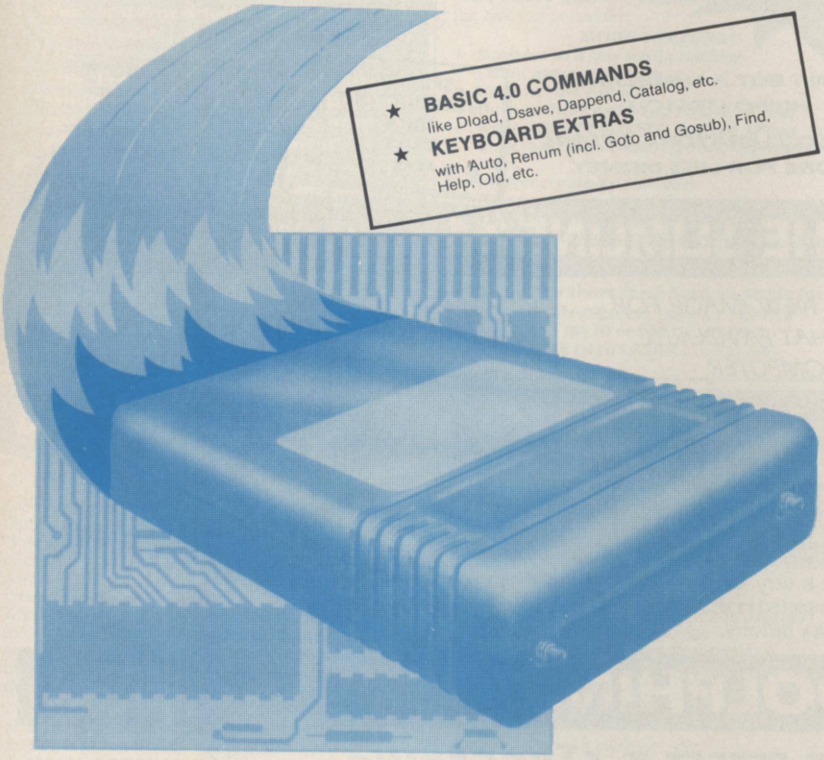

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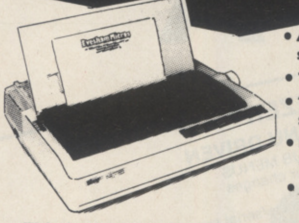

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This is the best Commodore ready printer you can buy. Combines many unique features with **superb reliability, styling and print quality.** But the real beauty is that the interface cartridge is interchangeable so if you change comp-uters just buy a new interface.

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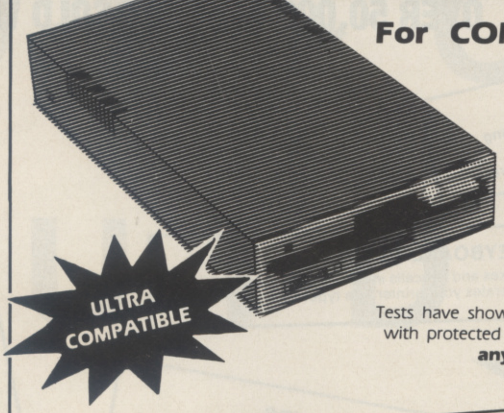

For COMMODORE Computers

Why buy a 1541C when you can buy this neat, reliable and compact drive for less money?

FEATURES

★ Handles Disc Turbos	★ Very Reliable
★ Direct Drive Motor	★ Compact Size
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Tests have shown the Accelerator to be **more compatible** with protected software than the CBM 1541C. We can't find **any software** that it will not load.

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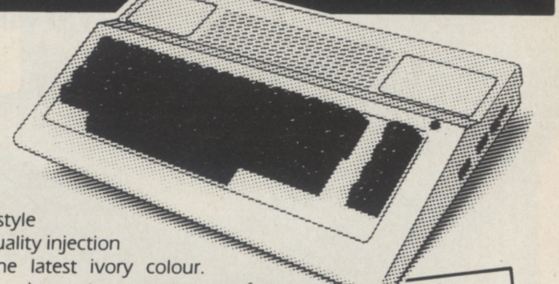

- Easy to Fit
- Lower key height

This modern case with it's sleek style will transform your '64. The high quality injection mould is superbly finished in the latest ivory colour. The lower key height is also a boon to operator comfort.

Fitting is very simple, requiring just a Philips screwdriver, and can be completed in less than 10 minutes. Stock now available so order for quick delivery.

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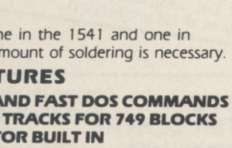

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THE EFFECT IS STAGGERING.

Now established as **THE parallel operating system** for the 1541 disc drive. Hundreds of satisfied users include business, hobby, full-time programmers, and **many leading software houses, including Gremlin Graphics, Domark, Superior, Alligata, Thalamus, Adventure International, and Software Projects.**

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FITTING

Fitting involves the insertion of two sub assembly circuit boards, one in the 1541 and one in the '64/'128. These normally just plug in but on some '64s a small amount of soldering is necessary.

SOME OF THE FEATURES

★ 25x FASTER LOADING (PRG FILES)	★ EASY AND FAST DOS COMMANDS
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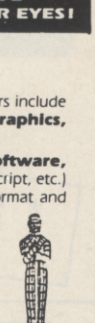
★ E.G. LOAD 202 BLOCKS IN 5 SECS	★ EXTRA BASIC COMMANDS

(These figures do not allow for searching)



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BACKUP CARTRIDGES

THE FACTS

Almost eighteen months ago, Freeze Frame Mk I revolutionised backup methods. Since then many imitators have appeared on the market. Some of the claims being made for certain of these products are rather misleading. Let us inform you of some positive facts.

1. **Much of the new software released uses "Anti-Freeze"; only Freeze Frame and one other product can handle these.**
2. **Only Freeze Frame can automatically handle these and other programs. You don't need to be an "Expert" or need "O" levels to operate Freeze Frame.**
3. **At press date (11.2.87) our exhaustive tests were unable to find any memory resident program that both Freeze Frame Mk IV and Lazer were unable to back up, completely automatically.**
4. **Similar tests with all rival products proved disastrous.**

THESE ARE THE FACTS
(not outrageous advertising claims)

FREEZE FRAME Mk IV

NEW PRICE . . . WHY SETTLE FOR LESS!

Now you can buy a **pedigree Freeze Frame** backup cartridge for a startling new price. **No need to settle for less,** this is the latest development of the originator. **More power, more features, easier to use.**

POWER

Legendary amongst Commodore owners but with continual development now even more impressive.

FEATURES

Three cartridges in one . . . fast load, utilities and backup.

TAPE to DISC **TAPE to TAPE**
DISC to DISC **DISC to TAPE**

So simple to use, just plug in and switch on, at the menu choose your option, no messing with software, it's always ready.

Load the program that you wish to backup, press the button on Freeze Frame, then you can either:

1. **Press "D" to save to disc with fast reload.**
2. **Press "S" to save to disc with standard reload.**
3. **Press "T" to save to tape with fast reload.**

MULTI STAGE PROGRAMS

The standard cartridge will transfer to disc **many tape based multi stage programs, e.g. Summer Games II, Silent Service, Winter Games, etc.** and when used in conjunction with the regularly updated **"F.F. Utility Disc"** the **vast majority** of programs of this type can be handled.

MORE FEATURES

- ★ **Doubles as a fast load cartridge**
- ★ **Loads extra parts fast**
- ★ **Built-in Fast Format**
- ★ **Built-in File Copier (up to 248 blocks)**
- ★ **New "SELECTALOAD" feature (Press "L" for directory, select with cursors, then press F3 to load.**
- ★ **Undetectable by software**
- ★ **Files compressed for disc economy**
- ★ **128/128D compatible in '64 mode**

PROGRAM RELOAD IS INDEPENDENT OF CARTRIDGE

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- ★ **Load speed approx. 20× normal** ★
- ★ **Save speed approx. 20× normal** ★
- ★ **Includes RESET** ★

Cartridge must be present to reload at LAZER speed
Proven power with stunning new technology:

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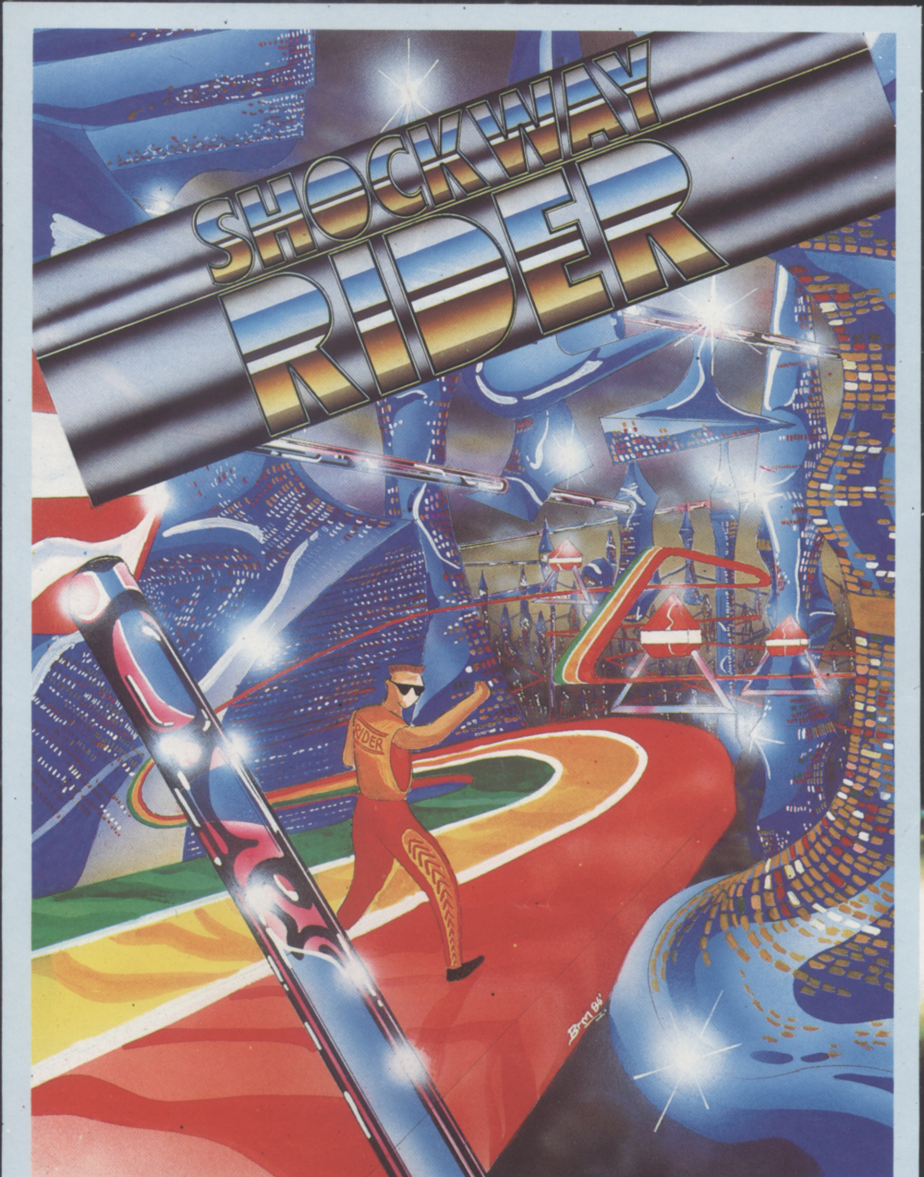

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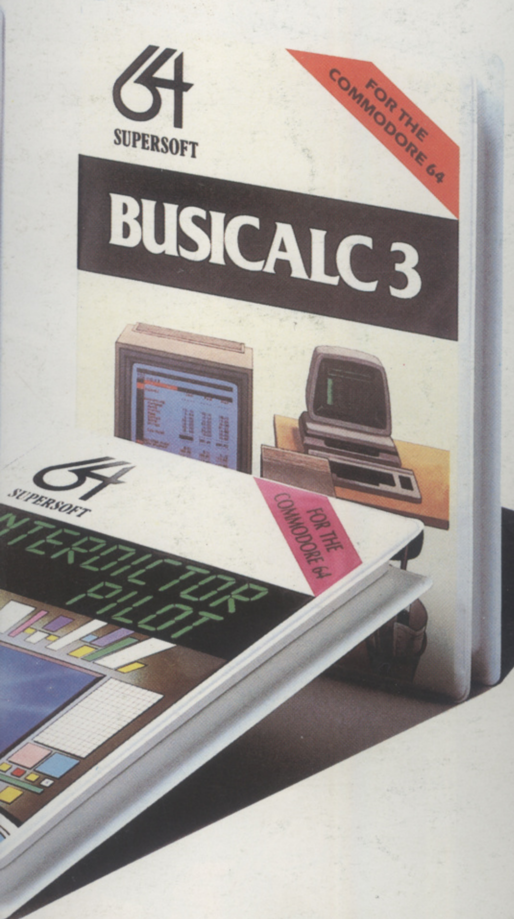
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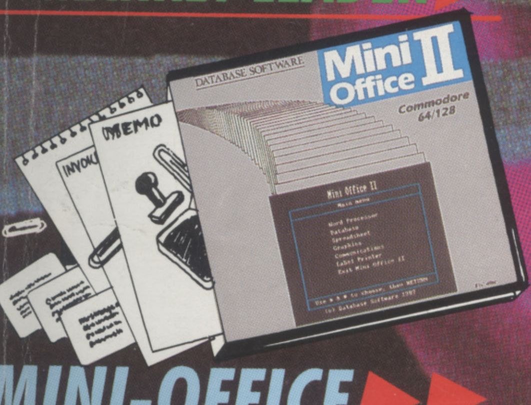
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